The Personal Characteristics of Audit Committee Financial Experts, Audit Quality and Financial Reporting Quality

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Abstract

The financial expertise of audit committee members has received a lot of attention in academic research due to the significant role the committee plays in the quality of financial reporting. However, the findings of these studies have either been ambiguous or very complex. This research examines the influences of audit committee financial experts' personal characteristics (gender, industry expertise, multiple directorships, tenure, and ownership of shares) on financial reporting and audit quality. The cross-sectional version of the modified Jones model, in which discretionary accruals served as the earnings management proxy, was employed to measure the quality of financial reporting. Audit quality was measured using the natural logarithm of audit fees paid to incumbent auditors. Ten hypotheses were developed within an agency and resource dependence theories framework. These were tested using data collected from a sample of 860 firm-year observations of ASX publicly-listed firms for the period 2016 to 2020.

Using ordinary least squares (OLS) regression, the results indicate that financial experts with ownership are more effective in reducing earnings management, while there is no relationship between financial experts' gender, industry experience, tenure, or multiple directorships with earnings management. This suggests that ASX-listed firms with a higher average number of audit committee financial experts with shares ownership have a favourable effect on financial reporting quality in Australia. The results also show that financial experts with multiple directorships and industry knowledge increase audit fees while there is no relationship between financial experts' gender and the ownership of stocks or shares and audit fees. These findings indicate that financial experts with industry experience and multiple outside seats have a deeper understanding of the specific financial and regulatory requirements of their industry and have gained valuable experience (including governance experience) from other boards. This gives them the skills and motivation to demand higher audit quality assurances from their auditors. In turn, this leads to a higher level of oversight and a greater need for audit services, resulting in higher audit fees. However, the average tenure of audit committee financial experts is negatively correlated with audit fees. This finding indicates that long-serving financial experts have greater knowledge and experience about the company's financial operations, resulting in a more efficient and effective audit and lower fees for the auditor.

A number of robustness and sensitivity tests were conducted to verify that the main results of the study were robust across different measurements and estimators. The findings of this study have clear implications for corporate management, firms,

regulators, and scholars. This study generates important insights for two key corporate governance mechanisms: audit committee financial experts and external auditors. It also contributes to new knowledge on corporate governance, financial reporting quality, auditing, and accounting.

Keywords**:** *financial expertise characteristics, industry expertise, audit fees, discretionary accruals, earnings management.*

Student Declaration

"I, Ashwag Hassan Alrudayni, declare that the PhD thesis entitled 'The Personal Characteristics of Audit Committee Financial Expertise, Audit Quality and Financial Reporting Quality' is no more than 80,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work".

"I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University's Higher Degree by Research Policy and Procedures".

Signature

Date
12/07/2023

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List of Abbreviations

ASIC	*Australian Securities and Investments Commission*
ASX	*Australian Securities Exchange*
CEO	*Chief Executive Officer*
CFO	*Chief Financial Officer*
COO	*Chief Operating Officer*
CLERP 9	*Corporate Law Economic Reform Program (Audit Reform and Corporate Disclosure) Act 2004 (Australia)*
EPS	*Earnings Per Share*
FASB	*Financial Accounting Standards Board*
IAASB	*International Auditing and Assurance Standards Board*
IASB	*International Accounting Standards Board*
IFRS	*International Financial Reporting Standard*
IPO	*Initial Public Offering*
GAAP	*Generally Accepted Accounting Principles*
GICS	*Global Industry Classification Standard*
KAM	*Key Audit Matter*
NACD	*National Association of Corporate Directors*
OECD	*Organisation for Economic Co-operation and Development*
OLS	*Ordinary Least Squares*
SEC	*Securities and Exchange Commission*
SOX	*Sarbanes-Oxley Act*
US	*United States of America*
UK	*United Kingdom*
VIF	*Variance Inflation Factor*

Chapter One: Introduction

1.1. Research Background and Motivation

This thesis examines whether the personal characteristics (gender, industry experience, multiple directorships, tenure, and ownership of stocks or shares) [1] of audit committee financial experts in Australian publicly-listed firms influence financial reporting and audit quality.

The quality of earnings has been of significant interest to all those involved in financial reporting, including regulators, auditors, preparers of financial statements, and standard setters. When examining financial statements, users base any decisions they make on reported earnings, which are considered one of the most important outputs of accounting systems (Graham, Harvey & Rajgopal 2005). In accounting, judgement and discretion are used to report earnings, but this makes it possible for managers to act opportunistically to maximise profits for their own benefit. The separation of ownership from control of a firm allows managers to control and manipulate information as it is sent to those who rely on it for business or investment decisions. This means that business executives are in a position to flout accounting principles (Habib, Uddin Bhuiyan & Islam 2013; Krishnan et al. 2011). Reporting what are, at best, optimistic earnings means users of financial statements may have unrealistic or false expectations of a firm's future financial performance (Krishnan et al. 2011).

In the early 2000s, fraudulent accounting practices resulted in huge losses for investors, whether individual shareholders or institutions. In response to these events, the *Sarbanes-Oxley Act (SOX) 2002* was passed in the United States of America (US), imposing stringent requirements on senior management and external auditors of publicly traded companies. The purpose of these reforms was to strengthen corporate governance mechanisms, especially audit committees since they had the responsibility to oversee auditor selection and the internal audit function, comply with laws and regulations, nominate external auditor(s), monitor internal controls and procedures, and oversee several other auditing and financial reporting processes (Abbott et al. 2003a). According to Abbott, Parker and Presley (2012), SOX 2002 mandated significant changes to the composition of boards and their committees, with the term 'corporate governance'

[1] In the same research field, previous studies have identified these attributes as 'personal characteristics' (Castillo-Merino, Garcia-Blandon & Martinez-Blasco 2020; Ma et al. 2019; Qi & Tian 2012).

coming into vogue as a result of economic and political changes in Organisation for Economic Co-operation and Development (OECD) countries. Indeed, these changes boosted stock market activity in Australia[2] (Coles, Daniel & Naveen 2008; Shleifer & Vishny 1986). The *Principles of Good Corporate Governance and Best Practice Recommendations,* influenced by the SOX, were introduced in Australia in 2003. The most important aspect of SOX adopted in the Australian Securities Exchange (ASX) was that the requirement for financial experts on the audit committees became mandatory. To improve audit procedures and, ultimately, financial reporting quality, the International Auditing and Assurance Standards Board (IAASB) introduced revised auditing standards to clarify auditors' responsibilities relating to fraud in their audits. The ASX guidelines led to minor updates and revised editions in 2007, 2010 and 2014.

The motivation for this study is rooted in a significant tension within the literature concerning audit committee financial expertise. While extensive research on this subject has been conducted in highly regulated environments, particularly in the US, the Australian context, which has been characterised as a minimally regulated environment (Bøhren & Staubo 2014; Liu & Sun 2010; Onyabe et al. 2018; Tham et al. 2019), remains relatively understudied. Existing literature highlights the ongoing debate surrounding the composition of audit committees, particularly in the choice between accounting and non-accounting financial experts. This debate stems from regulatory and academic discussions, with different definitions of financial expertise being applied. The definition of financial expertise influences the findings of previous studies, indicating that accounting financial experts may have a more significant impact on financial reporting quality (Abbott, Parker & Peters 2004; Defond, Hann & Hu 2005; Dhaliwal, Naiker & Navissi 2010; Krishnan & Visvanathan 2008; Sultana & Van der Zahn 2015) and audit quality (Abbasi, Alam & Bhuiyan 2020) under a narrower definition, whereas a broader definition suggests that both accounting and non-accounting experts play a role (Abbott et al. 2003a, 2003b; Zalata, Tauringana & Tingbani 2018). Furthermore, the individual characteristics of financial experts, such as gender, industry experience, and multiple directorships, have been insufficiently explored in terms of their potential impact on financial reporting quality (Zalata, Tauringana & Tingbani 2018) and audit fees (Abbasi, Alam & Bhuiyan 2020). This study aims to address these gaps in the literature, contributing to a deeper understanding of the role and effectiveness of audit committee financial experts, particularly in the Australian setting. It also delves into how resource

[2] See Chapter Two, section 2.4 for a more in-depth discussion.

dependence and personal characteristics of financial experts influence their effectiveness in monitoring corporate activities (Bédard & Gendron 2010; Cohen, Krishnamoorthy & Wright 2008; Hillman & Dalziel 2003), thus offering a more nuanced and specific approach to evaluating audit committee quality. Furthermore, as the characteristics of boards of directors and audit committees have received a lot of research attention (Bøhren & Staubo 2014), this study emphasises the necessity to investigate audit committee quality in terms of specific characteristics and not just general ones.

To date, however, the importance of audit committee expert members' personal characteristics in terms of improving the quality of financial reporting and external audits has rarely been discussed. Most studies have focused on investigating the effectiveness of having financial experts on audit committees, especially with reference to financial reporting and audit quality (Abbasi, Alam & Bhuiyan 2020; Bilal, Chen & Komal 2018; Sellami & Cherif 2020; Zalata, Tauringana & Tingbani 2018). In conducting a meta-analysis of 90 studies examining the relationships between the type of audit committee financial experts (accounting and non-accounting) and earnings quality, Bilal, Chen and Komal (2018) determined that the findings were inconsistent. To address this issue, this current research integrates the general characteristics of audit committee financial experts (multi-directorship, tenure, and ownership of stocks or shares) along with personal characteristics (gender and industry expertise) and assesses their effect on financial reporting and audit quality.

This research builds on the conceptual frameworks provided by Dhaliwal, Naiker and Navissi (2010) regarding an audit committee's financial experts' characteristics, and other personal traits as reported by Abbasi, Alam and Bhuiyan (2020); Zalata, Tauringana and Tingbani (2018). However, Dhaliwal, Naiker and Navissi (2010) focused only on the following audit committee financial expert characteristics: independence, tenure, multiple directorships and ownership of stocks or shares. Zalata, Tauringana and Tingbani (2018) investigated the impacts of audit committee financial experts' gender on earnings management, while Abbasi, Alam and Bhuiyan (2020) examined the influences of audit committee financial experts' gender on audit quality.

This study is motivated by the objective of expanding the current body of knowledge in agency theory and resource dependence theory. It aims to investigate the influence of audit committee financial expert characteristics on financial reporting and auditing, introducing novel factors such as gender, financial industry expertise, multiple directorships, and tenure, which have not received extensive attention in prior research.

By incorporating these attributes, the author aspires to provide a more comprehensive understanding of how the personal attributes of financial experts can impact their decision-making and strategic conduct in the domain of financial reporting and auditing. Notably, the inclusion of gender diversity addresses a gap in the literature regarding its potential impact on the effectiveness of audit committees.

The study proposes a conceptual framework rooted in an integrated agency-resource dependence perspective to assess the role of financial experts in management monitoring. This framework acknowledges the varying capacities and incentives of financial experts in this regard. The research aims to contribute to a deeper theoretical comprehension of agency and resource dependence theories by examining the relationship between financial expert characteristics and the quality of financial reporting and auditing. Ultimately, the study seeks to enhance our understanding of the factors shaping the accuracy and reliability of financial information, thus bolstering agency and resource dependence theories through the incorporation of new audit committee financial expert characteristics.

The current study differs from previous analyses by exploring the influences of financial experts' personal characteristics on financial reporting quality and audit quality. This study answers the call made by Krishnamoorthy et al. (2023) for more research into the audit committee appointment of financial experts with specific characteristics, given the limited attention given to this area in the literature. Although research discussing the impact of female financial experts on audit committees and earnings management has been conducted in the US and France, these countries have their own laws and regulations for the types of financial experts that should be employed, as well as gender diversity recommendations. Using the theoretical models proposed by Hillman, Cannella and Paetzold (2000), Bédard and Gendron (2010), and Cohen, Krishnamoorthy and Wright (2008), this study provides empirical evidence on how financial experts' personal characteristics shape the quality of financial reporting and auditing from the perspectives of agency theory and resource dependence theory.

Australia, with its well-developed capital markets and robust corporate governance framework, provides an excellent context to explore the association between audit committee financial experts' characteristics and earnings management practices. The ASX *Principles of Good Corporate Governance and Best Practice Recommendations* Corporate Governance Council's principles and recommendations emphasise the importance of having a majority of independent directors on audit committees, as well as the presence

of financial experts among committee members. However, the extent to which these financial experts' characteristics, such as gender diversity, industry expertise, multiple directorships, tenure, and share ownership, impact earnings management practices in Australian publicly-listed firms remains a question worthy of investigation.

The association between audit committee financial experts' individual characteristics, financial reporting quality, and audit quality in Australian publicly-listed firms is a topic of significant interest and importance. Prior research has shown that the presence of financial experts on audit committees can have a positive impact on financial reporting quality (Abbott, Parker & Peters 2004). However, it is essential to understand the specific individual characteristics of these financial experts and how they relate to financial reporting quality and audit quality in the Australian context.

Further to the above, as very few studies have investigated the impact of financial experts' characteristics on financial reporting and audit quality measures in Australia, this thesis provides a positive contribution by examining the influence of financial experts' characteristics on the above-mentioned domains. With this in mind, the current study concentrated on two objectives. The first was to explore the impact of audit committee financial experts' personal characteristics, namely independence, gender, industry expertise, multi-directorships, tenure, and ownership of stocks or shares on the quality of financial reporting. The second objective was to explain the impact of those personal characteristics on audit fees (proxies for audit quality). The study investigated non-financial firms listed on the ASX covering the period 2016 to 2020. The sample consisted of 860 firm observations over five years.

The following section outlines the aims and objectives of this research; the third and fourth sections discuss how the audit committee's financial expertise contributes to corporate governance. The last section of this chapter explains the thesis structure.

1.1. Research Aims and Objectives

The aim of this study was to investigate how specific characteristics of audit committee financial experts (gender, industry expertise, multi-directorships, tenure, and share ownership) influence: i) financial reporting quality; and ii) external auditor oversight in the Australian context. To fulfil this aim, the following objectives were identified:

Examine whether the personal characteristics of financial experts (gender, industry expertise, multiple directorships, tenure, and share ownership) improve the quality of financial reporting among Australian publicly-listed firms.

Examine whether the personal characteristics of financial experts (gender, industry expertise, multiple directorships, tenure, and share ownership) contribute to improving the quality of audits among Australian publicly-listed firms.

1.2. Contribution to Knowledge

This study contributes to the academic literature on accounting, auditing, and corporate governance in several ways. Firstly, it presents evidence that supports the theory and practice of how financial experts' characteristics enhance the monitoring functions of the audit committee. The study's results indicate that financial experts with ownership are more effective in reducing earnings management, while there is no relationship between financial experts' gender, industry experience, tenure, or multiple directorships with earnings management. This contribution adds to three streams of literature: (i) studies examining the association between audit committee financial experts and the quality of financial reports (Carrera, Sohail & Carmona 2017; Dhaliwal, Naiker & Navissi 2010; Hoitash & Hoitash 2009; Krishnamoorthy et al. 2023; Krishnan & Visvanathan 2008; Wang, Xie & Zhu 2015; Zalata, Tauringana & Tingbani 2018); (ii) studies examining the link between financial experts and the oversight of the external auditor (Abbasi, Alam & Bhuiyan 2020; Abbott et al. 2003a; Carcello et al. 2002; Naiker, Sharma & Sharma 2013); and (iii) studies that examine the effectiveness of audit committees beyond financial experts (Carcello & Neal 2003; Krishnan, Wen & Zhao 2011). Until the completion of this current study, the extent to which financial experts' personal characteristics influence the quality of financial reporting and auditing remains unknown.

Secondly, this research adds to the audit committee effectiveness literature by contextualising the research in a less litigious corporate governance environment than reported elsewhere (Bhuiyan & Mabel 2020; Sultana & Van der Zahn 2015). The research findings also suggest that financial experts with multiple directorships and industry knowledge increase audit fees, while there is no relationship between financial experts' gender and the ownership of stocks or shares and audit fees. Importantly, the study reveals that long-serving financial experts have a profound impact on audit quality, enhancing the overall effectiveness of audit committees. This study makes a solid contribution to the currently limited literature on Australian corporate governance by examining the relationship between audit committee financial experts' characteristics, audit quality, and financial reporting quality. The research underscores the significance of long-tenured financial experts, whose deep knowledge and experience in the company's financial

operations contribute to a more efficient and effective audit, resulting in higher audit quality. By shedding light on this critical aspect, valuable insights are provided into improving corporate governance and audit practices.

Thirdly, this study examines contradictions in the findings of prior literature in terms of the relationship between audit committee financial experts and earnings management (Bilal, Chen & Komal 2018). It does so by proposing different conceptual frameworks, which better help to determine the influences of audit committee financial experts. Unlike most prior studies of audit committee financial experts, this study incorporates both the agency and resource dependence roles of directors, as proposed by Hillman and Dalziel (2003). The results of this study help support the use of resource dependence theory and highlight the importance of considering the diverse skills and expertise of financial audit committee members for ensuring effective corporate governance. This finding reinforces the idea that organisations should take into account the expertise and backgrounds of their audit committee members, as these factors can significantly impact the quality of financial reporting and audits.

The research framework also strengthens the agency and resource dependence theories by including some new audit committee financial expert characteristics that previous studies have not investigated in depth, including gender, financial industry expertise, multiple directorships, and tenure. A conceptual framework based on integrated agency-resource dependence was devised in this study to examine the strategic conduct of financial experts with reference to management monitoring, which is dependent on ownership structure. Although agency theorists have not explicitly examined how boards differ in their monitoring abilities, this thesis argues that financial experts on the audit committee have a variety of capacities and incentives and monitor processes accordingly. This means that the research explores how audit committee members adapt their monitoring approaches based on the specific needs and challenges posed by their organisations' ownership structures, which can significantly influence the effectiveness of corporate governance practices.

Fourthly, although prior research has focused mainly on investigating the presence of financial experts on audit committees (Bryce, Ali & Mather 2015; Ghafran & O'Sullivan 2017; Sultana 2015), Dhaliwal, Naiker and Navissi (2010) examined the effects of audit committee financial experts' general characteristics (stock ownership, multiple directorship and tenure) on earnings quality. This study contributes to Dhaliwal, Naiker and Navissi (2010) framework by adding further audit committee financial expert

characteristics, including gender and industry expertise, and examines how such characteristics contribute to financial reporting quality and audit quality.

Fifthly, this research offers a response to calls for further investigation into the characteristics of audit committee financial experts' effectiveness (Bilal, Chen & Komal 2018; Gray & Nowland 2017; Krishnamoorthy et al. 2023; Sun & Bhuiyan 2020; Velte 2019). As this study was conducted in an Australian setting, the results will also help build a more international understanding of the links between audit committee financial experts, audit quality and financial reporting quality. It will also provide an update on the effect of multi-directorships and tenure on the quality of financial reporting in little-regulated environments such as Australia. In addition, by investigating the influence of audit committee financial experts with a minimum of five years of industry experience in the same sector on financial reporting quality and audit quality, this study contributes to the exploration by Gray and Nowland (2017) into the diversity of professional expertise on corporate boards in Australia. Thus, this study goes beyond the literature focusing on general corporate governance characteristics (board and audit committees) by evaluating the specific personal characteristics of financial experts.

Lastly, previous literature has documented conflicting results on the impact of audit committees' financial expertise in regard to the quality of auditing and actual audit reports (Abbott et al. 2003a; Bilal, Chen & Komal 2018; Katmon & Farooque 2017; Krishnan & Visvanathan 2009). This study suggests that these conflicts may be due to the differences in characteristics of the audit committee financial experts examined in these studies. Factors including the gender of directors, industry expertise, multiple directorships, tenure, and financial experts' ownership of stocks or shares may explain the ambiguous results.

1.3. Statement of Significance

This study offers a comprehensive exploration of the individual characteristics of financial experts serving on audit committees, illuminating their specific roles in shaping the quality of auditing and financial reporting. By delving into their personal attributes, including gender diversity and industry expertise, the findings presented in this thesis carry explicit implications for corporate governance regulators tasked with monitoring the composition of financial experts within audit committees. While prior research has primarily focused on assessing the impact of financial expertise levels within these committees, less attention has been directed toward understanding how the diverse

personal characteristics of financial experts influence audit and financial reporting quality.

Furthermore, it is worth noting that most of the existing studies in this domain have been conducted in different countries, each with its unique institutional settings, legislative and regulatory processes, and historical contexts that may not align perfectly with the Australian landscape (Dhaliwal, Naiker & Navissi 2010). Therefore, this research fills an important gap by providing scholars and practitioners with contemporary insights specific to the Australian context. By doing so, it not only contributes to the global body of knowledge but also offers a current and relevant perspective on the role and impact of financial experts' characteristics within the unique corporate governance framework of Australia. This empirical examination is crucial for informing regulatory practices and advancing corporate governance standards in Australian publicly-listed firms, ultimately promoting transparency, accountability, and financial reporting quality in the nation's capital markets.

To assist in understanding and properly monitoring complex, industry-specific accounting issues, it is valuable to have industry experts working on audit committees (Cohen et al. 2014). Therefore, it is significant that this research is the first to investigate the impact that individual financial and industry experts have on enhancing audit quality. As such, the findings may assist regulators and policymakers to consider whether it is appropriate to mandate the existence of financial and industry experts on audit committees in the Australian capital market setting so that the duties of such committees can be executed effectively. It is possible they will be able to use the findings to introduce new legislation related to board membership, tenure, industry experience and stock ownership for audit committee financial expert directors.

The comprehensive analysis of audit committee financial experts, financial reporting quality and audit quality, and how all these variables are linked in the Australian context, is of considerable interest. As already noted, to date there has been a paucity of research examining the impact of certain financial experts' characteristics (such as industry experience, multiple directorships, stock ownership and tenure) on financial reporting and audit quality. In addition, empirical findings based on studies examining the impact of other financial expert characteristics on financial reporting and audit quality are mixed. This includes gender (Abbasi, Alam & Bhuiyan 2020; Zalata, Tauringana & Tingbani 2018), the existence of financial experts on audit committees (Ghafran & O'Sullivan 2017; Ghafran & Yasmin 2018), and the type of financial experts on those

committees (Abbott et al. 2003a; Carcello et al. 2006; Krishnamoorthy et al. 2023; Krishnan & Visvanathan 2008). Consequently, as the evidence on which financial expert attributes contribute most significantly to financial reporting and audit quality is limited and at times controversial, there are economic implications for legislators and auditors who have to monitor financial records.

This study also provides a contemporary update on earnings management practices in Australian public companies by using the aggregate (total) accruals method to estimate earnings management. While aggregate accruals have been widely employed in prior literature to estimate earnings management, they have been criticised for creating inaccurate and noisy estimates of discretionary accruals (Dechow, Richardson & Tuna 2003; Guay, Kothari & Watts 1996; Jackson 2018; Kang & Sivaramakrishnan 1995). To mitigate such issues and enhance the validity and reliability of the results, two variations of the aggregate accruals approach were chosen to estimate discretionary accruals. This reflects methodological improvements. Using aggregate accruals, this study is significant in that it uses two models: (i) the cross-sectional version of Dechow, Sloan and Sweeney (1995) modified Jones model; and (ii) the Kothari, Leone and Wasley (2005) performance adjusted model.

This study should be of interest to regulators when formulating rules or laws related to financial experts on audit committees in countries with weak litigation environments. As a result of the low level of litigation in Australia, as well as the still voluntary way in which audit committees are formed, this country has become increasingly interesting to governance regulators (Bhuiyan & Mabel 2020; Sultana, Singh & Rahman 2019). In the absence of litigation threats, granting shares to audit committee members may encourage them to be more vigilant in overseeing financial reporting. Additionally, the absence of litigation may provide audit committee members with natural incentives to maximise their short-term interests, weakening investor protection and compromising their independence (Bhuiyan & Mabel 2020).

It is important to note that this study has timely relevance, as policymakers are increasingly prioritising the diversity of skills and expertise present on corporate boards. For instance, the ASX *Corporate Governance Principles and Recommendations* (2014) mandates companies to dedicate more time and resources to assess the skill sets and expertise of their board members to identify any deficits in collective skillsets. The findings documented in this thesis can offer critical insights to policymakers and board members to facilitate this undertaking.

Finally, this research employed various methods to measure audit committee financial experts' characteristics. It also sought to determine whether there is an ideal operating level of audit committee financial experts' multiple directorships, stock ownership, and tenure to reduce earnings management activities within the firm and, hence, improve financial reporting and audit quality. Examined here is the impact of multi-directorships on these two important dimensions. Consequently, the findings may enable regulators and key stakeholders to limit the remit of directorships and tenure of financial experts. More importantly, this study selected recent data, following the introduction of corporate governance guidelines in 2003, 2007, 2010 and 2014, which help to provide new insights and updates on the relationship between specific characteristics of audit committee financial experts, audit quality and financial reporting quality.

1.4. Thesis Structure

The remaining chapters of this thesis are arranged as follows. Chapter Two provides an in-depth literature review of the financial reporting quality measure known as earnings management. The chapter discusses the determinants, incentives, and methods of detecting earnings management. It also comprehensively describes the association between corporate governance mechanisms (board of directors, audit committee and external auditors), financial reporting quality and audit quality, and discusses the determinants of audit quality. Following that, this chapter gives a brief overview of the audit committee's financial expertise and the regulatory environment in Australia. Finally, it discusses gaps in the literature regarding audit committee financial experts' characteristics, financial reporting quality, and audit quality.

Chapter Three examines the theories underpinning this study, with particular reference to agency theory and resource dependence theory. It begins by outlining the theoretical framework of corporate governance and discusses the five main theories (namely agency theory, institutional theory, stewardship theory, resource dependence theory, and stakeholder theory). In order to formulate hypotheses, the empirical literature pertaining to personal characteristics of audit committees' financial expertise is analysed. An illustration of the key relationships examined in this study is presented in a conceptual schema.

Chapter Four describes the sample collection and selection process, justifies the choice of time period, and details the primary research methodology, which is multiple regression. In particular, it measures earnings management (the dependent variable), audit

committee financial expertise characteristics (the independent variables), and the use of control variables (all supported by prior empirical literature) and describes associated alternative statistical tests and regression models.

Chapter Five reports on the descriptive statistics, correlation and univariate analysis results. As a first step, basic descriptive statistics (such as mean, median, standard deviation, 25 percentiles, and 75 percentiles) are presented. These were employed to ensure that the data collected and assumptions for the subsequent multiple regressions were valid. Pearson's correlation analysis is also discussed and reported in this chapter. The univariate analysis exposes the differences in the variables between firms with financial experts exhibiting specific characteristics of interest (such as being female, possessing industry experience, holding multiple directorships, and ownership) and firms without such characteristics.

Chapter Six provides the results of pooled ordinary least squares (OLS) regressions used to examine the relationships between the five personal characteristics of audit committee financial experts (both in isolation and when combined) and earnings management. In this chapter, all findings are examined, and the hypotheses are applied. A discussion of robustness and sensitivity tests is then followed by a discussion on the selection of alternative measures/proxies for earnings management. Additionally, partitioning tests are discussed. These were conducted based on client characteristics (such as size of the firm) and signed discretionary accruals.

Chapter Seven delivers the results of pooled OLS regressions used to examine the relationships between the five personal characteristics of audit committee financial experts (both in isolation and when combined) and the log of audit fees. In this chapter, all findings are examined, and the hypotheses applied. A discussion of robustness and sensitivity tests follows.

Chapter Eight summarises the study's findings, conclusions, implications, contributions, and limitations. Following the review of the entire study and major findings, future research directions are suggested.

Chapter Two: Literature Review

2.1. Chapter Overview

The background, motivation, research topic and objectives for this study were defined in detail in Chapter One. The study's importance was also noted. This chapter comprehensively reviews the key prior studies that are relevant to this research. The chapter is structured as follows. Section two examines the published research on the quality of financial reporting, followed by a review of the methods employed to measure the quality of financial reporting quality. Section three reviews studies on corporate governance with an emphasis on the board of directors, the audit committee, and the external auditor, identifying the gaps in the literature. Finally, section five summarises the main themes covered in this chapter.

2.2. Literature on the Quality of Financial Reporting

Financial lenders and investors (decision-makers) have paid more attention to the quality of financial reporting because it is the main source of information that investors rely on when making decisions (Schipper & Vincent 2003). In the last forty years, many researchers and regulators have tried to define or determine financial reporting quality. The International Accounting Standards Board (IASB) provided a conceptual framework that determined four qualitative characteristics of vital financial information: comparability, verifiability, timeliness and understandability of the relevant financial information (IASB 2008). The quality of financial reporting can be assessed based on the protection views of both the user (investors and creditors) and shareholder/investors (Jonas & Blanchet 2000). For the former, financial information has to be relevant and reliable, to reflect the actual economic situation of an entity when decisions have to be made; for the latter the information has to be 'full and transparent financial information that is not designed to obfuscate or mislead users' (Jonas & Blanchet 2000, p. 357). The quality of financial reporting does not rely on the final output of financial reporting but on the quality of each financial reporting process (Jonas & Blanchet 2000; Martínez-Ferrero 2014). High quality accounting information is critical to reduce any suspected information asymmetry between agent and owner, and to meet the expectations of investors and shareholders (Chen et al. 2011).

The quality of financial reporting can be influenced and controlled by many factors, such as governance, accounting and economic factors, international regulations, the political system and taxation (Gajevszky 2015). Measuring financial reporting quality is

made more difficult by the complex interaction between multiple variables (Tang 2016). While acknowledging all the measurements used in the literature to assess financial reporting quality, this study concentrates solely on measuring earnings management behaviour (using accounting accruals) as an indicator of financial reporting quality. This is due to its importance for standard-setters, regulators and the accounting profession (Menicucci 2020).

2.2.1. Earnings Management Definitions and Incentives

Earnings management has been a key academic research topic for almost three decades. Earnings management compromises the quality and credibility of financial statements produced for a business (Hsieh et al. 2018). The process of making a financial statement requires management executives to use their discretion over accrual accounts and accounting choices (Bissessur 2008; Jensen & Meckling 1976).[3] Management may consider this to be an opportunistic situation, allowing them to achieve their own private advantages. Earnings management is one issue that can undermine the quality of earnings, and this results in a decrease in financial reporting quality. There is no widely agreed definition for earnings management in the literature (El Diri 2018; Menicucci 2020; Ronen & Yaari 2008). However, several analyses have provided explanations about what earnings management behaviour entails. These explanations can be divided into two types: opportunistic or informative (Beneish 2001; Kanagaretnam, Lim & Lobo 2013; Menicucci 2020; Scott & O'Brien 1997).

The first is the opportunistic view, which contends that management uses accounting choice to hide how well or badly the firm is truly performing, in an effort to mislead investors and shareholders (Beneish 2001). According to this view, management is motivated to manipulate financial statements for their own ends, such as for contractual advantages, or to meet earnings targets. The most popular definition of earnings management relates to the opportunistic view, as introduced by Healy and Wahlen (1999). They specified that earnings management occurs when managers use their own judgement in financial reporting and structuring transactions to alter financial reports. This is done to mislead stakeholders and other interested parties about the performance

[3] Management practice judgement in relation to financial statements has been described as: 'changing firm's depreciation policy including depreciation methods and estimates, adjusting the estimate of the provisions for bad debts, changing the useful life and/or residual value of fixed assets through assets revaluations, classifying gains and losses as extraordinary items, not recognizing goodwill impairment or not recognizing goodwill amortization and/or write-offs' (Habib & Hossain 2008; Menicucci 2020).

of the company, or to influence contractual outcomes that depend on reported accounting numbers. This explanation strongly suggests that management tends to manipulate earnings for their own needs. Schipper (1989, p. 365) described earnings management as 'purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain'. Schipper (1989) pointed out that management teams are motivated to take advantage of business situations. Meeting the earnings or profit target is another reason why managers manipulate financial statements. Mulford and Comiskey (2002, p. 2) described earnings management as:

> the active manipulation of earnings toward a predetermined target, which may be set by management, a forecast made by analysts, or an amount that is consistent with a smoother, more sustainable earnings stream.

According to the opportunistic view, management employs the accrual-based accounting technique to manipulate financial information (Bissessur 2008). Managers prefer accrual-based earnings management as there is no direct impact on cash flow, it occurs through changes in estimates and accounting policies (Dechow, Ge & Schrand 2010), and it cannot be detected directly (Young 1999). Earnings management can take several forms; however, revenue recognition is the most popular area of manipulation (Ronen & Yaari 2008).

Unlike the opportunistic view, in the informative or signalling perspective, managers disclose some private information to investors regarding expectations about the company's future cash flows (Kanagaretnam, Lim & Lobo 2013). The disclosure of such information is designed to increase the confidence of investors and shareholders in how a company is managed (Menicucci 2020). Here, managers can use the real earnings activities technique to manipulate earnings. This kind of manipulation depends on changing the operational/procedural policies. The manipulation of earnings can be upwards and downwards. This practice is often driven by the direct correlation between managers' compensation and their firms' profits (Menicucci 2020). Upward earnings management occurs when managers aim to meet the requirements of their bonus plans. If a company's earnings fall below the minimum level necessary to qualify for a bonus, various accounting tactics may be employed to inflate earnings to the required minimum threshold, ensuring eligibility for a bonus (Menicucci 2020). In addition, when earnings fall within the range specified in bonus plans, managers may manipulate earnings upwards to maximise the bonus amount they can earn in the current period, providing an additional incentive for this practice. Conversely, downward earnings management is

employed when a firm's earnings exceed the maximum level, beyond which no additional bonus is granted. In such cases, managers may deliberately reduce reported earnings to avoid triggering extra bonuses in the current period, effectively preserving the excess earnings for future use in earning bonuses.

Earnings management is an integral part of the financial reporting system, and that does not eliminate or reduce the usefulness of financial reporting quality (Adams & Ferreira 2009; Schipper 1989). The practice of earnings management has been divided into 'bad' and 'good' (Parfet 2000). Earnings management is improper or bad when managers tend to hide the real state of the firm by making false entries or exceeding the point of reasonableness in a given estimation. Conversely, earnings management is proper or good when managers can look after the business well by making a reasonable estimation, ensuring the financial performance is stable, and delivering good value to investors (Parfet 2000).

2.2.2. Determinants of Earnings Management

Earnings management is an essential part of financial reporting (Adams, Hermalin & Weisbach 2010). This is because of the nature of financial statements and reporting, which requires good judgement (Dichev & Owens 2020). Exercising judgement gives managers room to use their knowledge of the business to make accounting choices, and this boosts the integrity of financial reporting (Habib & Hossain 2008). However, managers can use the opportunity when making an accounting choice to mislead investors or stakeholders about the real performance of the company or influence contractual scenarios (Healy & Wahlen 1999). Earnings management practices can be influenced by a variety of factors that increase or decrease the level of earnings management. These factors relate to the firm and industry, corporate governance, regulators, legislators, and key stakeholders.

2.2.2.1. Factors Related to Firms' Characteristics and Industry

The characteristics of a company or corporation explain the varying magnitudes of earnings management (Gaio 2010). A voluminous literature has examined the effect of firm characteristics on earnings management. Corporate earnings management can be influenced by different factors related to firms such as their size, growth or investment, debt or leverage, and performance and sectoral influence concerning the magnitude of earnings management. There are different views on the relationship between firm size and earnings management (Abdulaziz 2019; Chung, Firth & Kim 2005; Lee & Choi 2002;

Lemma, Negash & Mlilo 2013; Watts & Zimmerman 1978). The first view argues that large firms tend to be less engaged in earnings management practices than small firms (Abdulaziz 2019; Watts & Zimmerman 1978, 1983). Large firms engage less in earnings management because they usually have more sophisticated and effective internal control systems in place, and they contribute to generating reliable financial information (Abdulaziz 2019; Francis & Krishnan 1999). Large-sized firms get better audit services (Francis & Krishnan 1999) and generally hire auditors from big international accounting firms (big N). These firms usually have the experience to help restrain earnings misrepresentation.

Governance mechanisms are strong in large firms and this results in less information asymmetry and, subsequently, low earnings management (Meek, Rao & Skousen 2007). This helps large firms avoid earnings management and release reliable financial information to the public (Abdulaziz 2019). Also, regulators put stricter disclosure requirements on large firms than on small ones, which discourages businesses from manipulating earnings (Lee & Choi 2002). The reputation costs that large companies bear when disclosed financial information is compromised prevents them from engaging in earnings practices (Lemma, Negash & Mlilo 2013). Unlike small firms, large businesses are subject to closer and stricter scrutiny because the risks of earnings management practices are greater, so they need to ensure more efficiency and well-functioning internal control systems (Hsu & Koh 2005; Simpson 2013).

Another view supports the argument that large firms have more incentive to manage earnings than small firms (Baber, Kang & Li 2011; Lanouar, Riahi & Omri 2013; Myers, Myers & Skinner 2007; Uwuigbe, Uwuigbe & Okorie 2015). Large firms were observed to hide their real earnings, explained by the need to please investors or stakeholders, in order to meet the analysts' expectations (Baber, Kang & Li 2011; Myers, Myers & Skinner 2007). It can also be difficult for users of financial reporting to identify overstatement (Uwuigbe, Uwuigbe & Okorie 2015). Managers were documented in some studies as looking after earnings in an opportunistic way in large companies; for example, they were observed to manipulate earnings in such a way to reduce tax payable (Lanouar, Riahi & Omri 2013). In the same vein, large- and medium-sized firms avoid reporting earnings decreases; therefore, they exhibit highly aggressive earnings management (Chung, Firth & Kim 2005). Managers, according to some research, use different methods of earnings management. For example, large firms tend to engage in real earning activities but are less likely to engage in accrual earnings management (Lemma, Negash & Mlilo

2013). Another reason for managing earnings is to reduce political costs (Chung, Firth & Kim 2005). Also, large-sized firms have more power to bargain with external auditors (Baber, Kang & Li 2011). In contrast to both views, some studies noted that firm size wields no influence on earnings management behaviour (Alareeni 2018; Bassiouny 2016; Llukani 2013).

Empirical research has revealed two opposite views regarding the influences of high firm growth on earnings management behaviour. The first view argues that internal control is weak in firms with a high growth rate; thus, managers have a great incentive to opportunistically manipulate earnings to take advantage of the lower cost of capital or increase their loan (Graham & Moore 2018; Hua-Wei, Raghunandan & Rama 2009; Richardson, Tuna & Wu 2002; Watts & Zimmerman 1986; Watts & Zimmerman 1990). High-growth firms are associated with high complexity in the volume of operations, which results in a greater likelihood of intentionally and unintentionally misreporting financial statements (Graham & Moore 2018). Managers in high-growth firms expect high future earnings, so they tend to represent income-increasing accruals (McNichols 2000). Conversely, the second view argues that high-growth firms curtail the manipulation of earnings due to the market scrutinising them closely (Koh, Laplante & Tong 2007), and they need external financing, so it is wise to improve their reports (Lemma, Negash & Mlilo 2013).

Firm leverage or debt is a characteristic that influences earnings management activities. One literature review shows that firm debt plays a role in reducing information asymmetry and the problem of agency conflict between managers (agent) with shareholders (principal), thus aligning their interests (Jensen & Meckling 1976). According to Jelinek (2007), and Lazzem and Jilani (2018), a debt covenant requires repayment, which limits management's access to internal free cash flows. This can result in the monitoring of management discretionary practices. Debt financing requires an external creditor to incur an agency cost to improve the firm's corporate governance. This, in turn, discourages managers from manipulating accruals (Afza & Rashid 2014; Vakilifard & Mortazavi 2016).

Conversely, a high level of debt leads to a conflict of interest between management and lenders or creditors. Management can obtain earnings aggressively through accruals to avoid violating loan covenants, because breaching a debt agreement leads to a high cost of capital (Bassiouny 2016). The credibility of financial reporting is weak and does not represent the real performance of the firm when its debt is high (Chamberlain, Butt &

Sarkar 2014; Sweeney 1994; Waweru & Riro 2013). Management can manage earnings whether upward or downward to, respectively, disguise debt violation or gain better terms in renegotiation of a debt contract (Graham & Moore 2018; Othman & Zeghal 2006). Some studies contend that managers manipulate earnings in short-term debt more than in long-term debt due to high monitoring by creditors when a long-term debt is in play (Afza & Rashid 2014; Alzoubi 2018). Firms with a high level of diversification were found to be the sources of increasing incentives to manipulate numbers in high debt scenarios (Rodríguez-Pérez & van Hemmen 2010). Firm diversification is more complex, and managers may exploit this point to circumvent those to whom they owe debts.

The literature holds two contrasting views about the nexus between earnings management and firm performance. The first view suggests that businesses suffering sustained weak performance avoid reporting loss or income decline to avert the increased cost of debt and improve the firm's reputation (Abdul Rahman & Ali 2006; Dechow & Dichev 2002; Hua-Wei, Raghunandan & Rama 2009). Conversely, a stream of literature contends that managers of profitable firms have more incentives to manage earnings because they want a higher salary, or promotion, a more secure contract, or to meet analysts' expectations, among other things (Burgstahler & Dichev 1997; Degeorge, Patel & Zeckhauser 1999).

Earnings management behaviour is influenced by the type of industry in which firms operate (Achleitner et al. 2014; Datta, Iskandar-Datta & Singh 2013; Frankel, Johnson & Nelson 2002; Garcia Osma 2008). Each industry has its own features and risk profile. For example, a firm in the information technology (IT) sector has a risk level different from a firm in telecommunications. Prior literature has documented that specific industries have more incentives to manipulate earnings (Beneish 2001; Lemma, Negash & Mlilo 2013). Since firms in the same industry face similar market conditions and (growth) prospects, it is expected to have a similar effect on earnings management (Jiao, Mertens & Roosenboom 2007). Senior managers, such as Chief Financial Officers (CFOs), believe that the industry and general business environment contribute to half of the earnings management that occurs (Dichev & Owens 2020).

2.2.2.2. Factors Related to Corporate Governance

An overwhelming number of researchers agree that corporate governance mechanisms, such as boards of directors, audit committees, internal audit factors and external audits, influence earnings management. The impact of each mechanism on earnings management is explained in more detail in section 2.3

2.2.2.3. Factors Related to Regulators, Legislators and Other Key Stakeholders

Regulators and legislators, according to prior studies, reduce managerial opportunistic behaviour. For example, the legislation known as Abbott, Parker and Presley (2012) in the US and the implementation of the *Principles of Good Corporate Governance and Best Practice Recommendations* along with *Corporate Law Economic Reform Program (CLERP 9) Act of 2004* in Australia[4] have led to improved financial reporting (Abd Alhadi et al. 2020; Bryant & Davis 2012; Bryce, Ali & Mather 2015; Clout, Chapple & Gandhi 2013; Crockett & Ali 2015; Ghafran & O'Sullivan 2017; Hutchinson, Seamer & Chapple 2015). In Australia, accounting quality improved in established and emerging firms[5] following the introduction of governance reforms (Clout, Chapple & Gandhi 2013). However, research regarding the impact of ownership structures and management discretion has shown inconsistent findings. Such studies focused on managerial ownership, institutional investors, large external shareholders, or concentrated ownership.

Managerial ownership acts as an internal mechanism that inhibits managerial opportunistic behaviour. The literature in this area adopts two hypotheses.[6] The first hypothesis (alignment interest) contends that insider ownership leads to a convergence in the interests of agent and owner (Alzoubi 2016; Donker, Santen & Zahir 2009; Klein 2002; Sánchez-Ballesta & García-Meca 2007; Yang, Lai & Tan 2008). When management owns a percentage of the firm's wealth, they will work to improve the firm so that the shareholders also prosper. In contrast to agency theory, managerial ownership reduces the agency cost that can emerge due to the separation of ownership and control interests of both parties (Alves 2012; Fama & Jensen 1983; Jensen & Meckling 1976). The second hypothesis contends that high insider ownership entrenches management authority, allowing them to make decisions that maximise their own fortunes without fear of being caught making decisions without shareholder input (Bryce, Ali & Mather 2015; Hsu & Koh 2005; Saona, Muro & Alvarado 2020). However, other studies fail to find a relationship between insider managerial ownership and earnings management (Habbash, Sindezingue & Salama 2013; Peasnell, Pope & Young 2005).

Many researchers have examined extensively how institutional ownership affects management's opportunistic decision-making. This is evident in the studies of Al-

[4] Released by the Australian Securities Exchange (ASX) Corporate Governance Council (2003).
[5] Established firms are top ASX 100 firms, while emerging firms are S&P/ASX small ordinaries index firms.
[6] Outsider managerial ownership is discussed in more depth in section 2.3.

Fayoumi, Abuzayed and Alexander (2010); Chung, Firth and Kim (2002); Nagata and Nguyen (2017); Yang, Lai and Tan (2008). This literature highlighted two conflicting views regarding this relationship between institutional ownership and earnings management. The first view supports the efficient monitoring hypothesis, which asserts that institutional investors can function as a corporate governance mechanism because that kind of investor usually possesses knowledge and resources to monitor management attitudes toward accruals (Nagata & Nguyen 2017; Zhong, Chourou & Ni 2017) and financial misstatement (Chung & Zhang 2011; Chung, Firth & Kim 2005). Therefore, these investors curtail any information asymmetry and agency problems (Morck, Shleifer & Vishny 1988; Shleifer & Vishny 1986). External institutional investors have the ability to encourage firms to adopt better accounting policies and improve the effectiveness of internal corporate governance routines (Al-Musali Mahfoudh et al. 2019; Feldmann & Schwarzkopf 2003) and maximise the firm's market value (Alhadab, Abdullatif & Mansour 2020).

A highly regulated environment can strengthen institutional investors and reduce managerial inducements to mislead investors (Bao & Lewellyn 2017). Conversely, some researchers have argued that the role of institutional investors is to be involved in governance and business decisions (Hsu & Koh 2005). Moreover, company owners commonly focus on enhancing short-term investments and profits. They are passive investors who are inclined to sell their shares if the firm is performing poorly and not considered worthy of long-term investment (Hutchinson, Seamer & Chapple 2015). This puts a lot of pressure on management to ensure that earnings are managed with short-term outcomes in mind, to placate investors (Hsu & Koh 2005). Al-Fayoumi, Abuzayed and Alexander (2010) argued that institutional investors do not monitor management effectively, which may lead to inaccurate profits being reported. Conversely, Yang, Chun and Ramadili (2009), Donker, Santen and Zahir (2009), and Abd Alhadi et al. (2020) observed that institutional shareholders do not influence management discretionary practices.

Finally, large shareholders also influence the degree of earnings management. There are two arguments explaining the way in which large shareholders and management financial discretion are linked. The first argument supports the efficient monitoring hypothesis. This implies that concentrated owners can act as an internal control of corporate governance, thus diminishing management opportunistic behaviour, and can reduce free-riding problems (Donker, Santen & Zahir 2009; Manzaneque, Merino &

Priego 2016; Saona, Muro & Alvarado 2020). Concentrated ownerships create incentives to maximise the firm's value and reduce financial distress, so company owners tend to supervise managers' decisions and actions effectively (Shleifer & Vishny 1986). The second view contends that large outside shareholders can have a negative effect on the firm's profits and minor shareholders (usually institutional investors). Concentrated shareholders have the power to finance other businesses by transferring their shares or investments elsewhere, which reduces the firm's market value and expropriates the rights of minority investors (expropriation hypothesis) (Dahya, Dimitrov & McConnell 2008; Fama & Jensen 1983; Morck, Shleifer & Vishny 1988). Also, shareholders who own many shares in a firm can pressure its management to maximise their own benefit at the expense of the minority shareholders (Ben-Amar et al. 2013; Shleifer & Vishny 1986).

2.2.3. Methods Used to Detect Earnings Management Based on Accruals

Accruals are the primary tool through which corporate or company managers attempt to make financial reporting more useful and relevant (Harris, Shi & Xie 2018). There is no general measure that can test every dimension or aspect of discretionary accruals because these are activities executed by executives inside the company, so it is difficult for researchers to observe the actual process (Donelson, McInnis & Mergenthaler 2013; Jansen, Ramnath & Yohn 2012; Lemma, Negash & Mlilo 2013). For this reason, prior literature has concentrated heavily on accrual-based models as a measure for assessing the quality of financial statements. Interestingly enough, this literature does offer some approaches to estimate the induction of earnings management when it comes to financial reporting issues. Earnings management models can be classified into three types: aggregate accruals, specific accruals, or account and earnings distribution (Dechow & Dichev 2002; Dechow, Richardson & Tuna 2003; Kang & Sivaramakrishnan 1995; Kothari, Leone & Wasley 2005; McNichols & Wilson 1988; McNichols 2002; Petroni 1992). This study used aggregate accruals to discover earnings management. The concept is discussed in more detail below.

2.2.3.1. Aggregate Accruals

The aggregate accruals/ discretionary accruals approach is the most commonly used model for detecting managerial incentives to alter earnings (Beneish 2001; Jackson 2018; Stubben 2010). This approach is based on separating the discretionary (abnormal)[7] and

[7] In the literature, discretionary accruals are referred to as 'unsigned', 'unexpected', 'unexplained', 'unmanaged' and 'abnormal' accruals. In this section, the terms 'discretionary' and 'abnormal' accruals and 'non-discretionary' and 'normal' accruals are used interchangeably.

non-discretionary (normal) accruals from total accruals. The aggregate accruals model starts by determining the total accruals, followed by regressing the total accruals on non-discretionary accruals to generate residual value, which represents the discretionary accruals. The impact of change in a firm's execution of managerial accruals is represented in non-discretionary accruals. The discretionary accruals (residual value) are assumed to reveal the level of distortions resulting from the violation of accounting standards or deliberate management misreporting (or manipulation) in revenue and expense accounts (Beneish 2001). The models assume that the total accruals consist of discretionary plus non-discretionary accruals (Dechow, Sloan & Sweeney 1995). Various models have been devised to estimate discretionary accruals (DeAngelo 1986; Dechow & Sloan 1991; Healy 1985; Jones 1991). The most widely used model for earnings management is the modified Jones model, which was introduced by Dechow, Sloan and Sweeney (1995). As the name implies, this is a modified version of the original Jones 1991 model.

The formative approach to aggregate accruals was developed by Healy (1985). He expected that earnings management could be predicted throughout all periods covered by a study. The mean total accruals were measured as the average of total accruals in five years (deflated by lagged total assets). The mean total accruals represent the non-discretionary accruals. The discretionary accruals represent the difference between total accruals and non-discretionary accruals.[8] In Healy's (1985) study, the partitioning variable was used and divided into three groups. One group was expected to manage earnings upward and the other two groups to manage the earnings downward. The conclusions drawn from the model were based on comparing the mean total accruals (upward/downward) with each group. Similarly, DeAngelo (1986, 1988) calculated the non-discretionary accruals as changes between the current total accrual and previous year (deflated by lagged total assets). This model is similar to Healy (1985) model in the following ways: 1) it uses the value of the previous year for the total accruals (known as the special case of the Healy model); 2) it considers the normal (non-discretionary) accruals as constant (zero); and 3) it measures the discretionary accruals as the difference between total accrual and non-discretionary accruals. However, autocorrelation was emphasised less in the DeAngelo model because he used only the previous year lagged with assets, rather than using five years. Both models were criticised because they ignored

[8] The total accruals are calculated as the difference between earnings and operation cash flow. Cash flow operation is calculated as working capital from operations minus changes in inventory account and receivables, plus changes in account payables and changes in income taxes payable (DeAngelo 1986; Healy 1985).

changes in the non-discretionary accruals (Kaplan 1985). The inferences of both models may generate a type II error (Dechow, Sloan & Sweeney 1995).[9]

The other model of aggregate accruals was developed by Dechow and Sloan (1991), known as the industry-based model. This model expects that managers in every industry will have different incentives to manage earnings. The model uses the median value of total accruals for all firms in the same year and industry sector (deflated by lagged total assets) to measure non-discretionary accruals (normal accruals). Unlike previous models, the industry approach assumes that variations in normal (non-discretionary accruals) are common for companies operating in the same industry (similar to the Jones model). Based on this model, earnings management is calculated as the difference between the accruals of the company and the accruals in other companies in the same industry. However, the model is less powerful in detecting earnings management because if the normal accruals are influenced largely by company-specific circumstances, not all non-discretionary accruals will extract a misclassification from discretionary accruals (Dechow, Sloan & Sweeney 1995).

Jones (1991) introduced the OLS regression model to detect earnings management. The model regresses total accruals (calculated from the balance sheet) on sales revenue, property, plant and equipment.[10] Sales revenue serves to control for changes linked to working capital accounts and firm circumstances. The model also adds property, plant and equipment to the control variables for changes in depreciation accounts. The model assumes that revenue, property, plant, and equipment are non-discretionary accruals. Compared to the Healy and DeAngelo models, the Jones model relaxes the assumption that non-discretionary accruals are constant (Dechow, Sloan & Sweeney 1995). To reduce heteroscedasticity in residual values, all the variables in the models are deflated by lagged assets (Jones 1991). The residual values of the model represent the discretionary accruals, while the non-discretionary accruals constitute the difference between total accruals and discretionary accruals. However, the major flaw in the model is that it neglects the

[9] A type II error refers to a case in which the null hypothesis (which states that earnings are not managed) is not rejected when it is false. A type I error refers to a case in which the null hypothesis (which states that earnings are not managed) is not rejected when it is true (Dechow, Sloan & Sweeney 1995; McNichols 2000).

[10] The total accruals in the Jones and modified Jones models were calculated based on the balance sheet approach. According to this method, total accruals = the change in current assets - change in current liabilities - depreciation. However, Hribar and Collins (2002) and Stubben (2010) contend that using a balance sheet to calculate the total accruals maximises the level of error. They recommended using the cash flow approach to calculate total accruals. The total accruals are calculated as the change between earnings before extraordinary items discontinued operations and operating cash flows.

changes occurring in accounts receivable (Dechow, Sloan & Sweeney 1995).

Dechow, Sloan and Sweeney (1995) introduced the modified Jones model. Their model aimed to solve problems in the original model. The model controls the changes in firm conditions that impact on non-discretionary accounts by adding the change in accounts receivable to the regression. The model calculates the cash revenue rather than the total sales revenue. The study measured the ability of all four models mentioned previously and compare them with the introduced model. Dechow, Sloan and Sweeney (1995) found that all the models can detect earnings management (low power to generate type II error). While their model appeared to be the most powerful, its drawback is that it ignores the need to control for firm performance, which may lead to generating a type I error.

To overcome the problem of misspecification in the Dechow, Sloan and Sweeney (1995) model, Kothari, Leone and Wasley (2005) introduced the performance-matched model. This model controls for firm performance by including the return on assets to the regression model. The model showed improvement after including the performance component in the original and modified Jones models. However, the model still suffers from misspecification. To resolve this, McNichols and Stubben (2018), and El Diri (2018) recommended employing suitable control variables and alternative tests to strengthen the inference of the study and avoid biased results.[11]

The discretionary accruals model discussed above was estimated in time series (Dechow, Sloan & Sweeney 1995; Jones 1991; Kothari, Leone & Wasley 2005). However, the time series model was criticised by Bartov, Gul and Tsui (2001) because it reduced the sample size (a long sample period resulting in dropping new firms) and led to high forecasting errors. They also argued that using time series compromised the model's reliability due to a structural break occurring during the estimation period. For this reason, the cross-sectional model was devised to minimise this problem. Peasnell, Pope and Young (2000), and Bartov, Gul and Tsui (2001) conducted tests for all five accruals models using the cross-sectional model, setting out to prove that the cross-sectional Jones model and cross-sectional modified Jones model were more powerful in

[11] Other accruals models were introduced to improve and strengthen the results of the Jones model, for example: the components model (Kang & Sivaramakrishnan 1995), the forward-looking model (Dechow, Richardson & Tuna 2003), the cash flows model (Dechow & Dichev 2002), and the synthesis model. This study supports models recommended by Dechow, Ge and Schrand (2010), and used the cross-sectional modified Jones model (Dechow, Sloan & Sweeney 1995) and the performance-matched model (Kothari, Leone & Wasley 2005).

detecting earnings management when applied to a random sample.

2.2.3.2. Specific Accruals

The specific accruals model or single account model is one method used to detect earnings management. The aggregate accrual approach does not show which account management uses to manipulate earnings (Stubben 2010). This approach goes beyond the aggregate accruals models and explains in detail specific earnings management occurrences (McNichols & Stubben 2018). In this approach, the chosen account must be based on management discretion within the bounds of generally accepted accounting principles (GAAP) and affect financial reporting. Revenues, for instance, constitute the most significant component of financial statements, and are subject to management discretion and manipulation (Dechow & Schrand 2004). The research using this approach focuses on investigating specific accounts from income statements in which managers tend to manipulate the documents, statistics, or other information for a specific type of industry (usually regulated entities), such as banking and insurance (such as property or health) (Beneish 1997; Bratten, Causholli & Omer 2019; Healy & Wahlen 1999; Petroni 1992; Pilcher 2011).

Specific accruals have been applied in previous studies in two ways: single accruals and multiple accruals. Some studies have used specific single accruals accounts to measure earnings management, such as residual provision for bad debts (McNichols & Wilson 1988), claim loss reserve estimation errors (Beaver & McNichols 1998; Petroni 1992), and residual allowances for loan loss (Beaver & Engel 1996). Other studies have investigated multiple components of specific accruals accounts. For example, Peasnell, Pope and Young (2005) examined earnings manipulation in revenue, bad debt and non-bad debt expense accounts. Ibrahim (2009) examined the manipulative behaviours evident in accounts receivable, inventory, accounts payable, working capital, and depreciation in firms that were targeted by the US Securities and Exchange Commission (SEC). Harris, Shi and Xie (2018) provided a model to detect earnings management in revenue accounts using accounts receivable and deferred revenues. Prior studies in this area highlight certain advantages and disadvantages in using the specific accrual approach (McNichols 2000; McNichols & Stubben 2018; Stubben 2010).

The benefit of using specific component accruals is that it increases understanding of the development of non-discretionary accruals and how the account is manipulated (Healy & Wahlen 1999; McNichols 2000; Stubben 2010). The critical issue for earnings management research is to differentiate discretionary accruals from non-discretionary

ones. Therefore, focusing on one component of accruals leads to a more accurate estimation of managerial discretion. Another benefit of using a single accrual is to curtail measurement error. The specific accrual overcomes the difficulty of identifying the magnitude of influences for each explanatory variable (the independent variable) on the total accrual in aggregate accruals (McNichols & Wilson 1988).

However, it should be noted that previous studies also shed light on the weakness of depending on the specific accrual model (McNichols 2000; McNichols & Stubben 2018). First, the single accruals component cannot detect earnings management when a manager uses different accounts to manipulate the finances. Second, a specific component account is employed when the non-discretionary component is large, so it becomes difficult to extract the full amount of the discretionary component and aggregate a type II error (McNichols & Wilson 1988). Third, the specific accruals method fails to detect earnings management when the discretionary component is only a small part of accruals (McNichols & Wilson 1988). Fourth, compared to the aggregate accruals approach, research using this specific accrual approach requires a high level of industry knowledge and information, making it more expensive to conduct. Fifth, if the specific account does not show evidence of earnings management, it does not mean that earnings management will not exist in other accounts. Finally, the results of specific accrual studies cannot be generalised to all industries because it includes only a small number of firms.

2.2.3.3. Earnings Distribution

Earnings distribution or earnings per share (EPS) is a technique for evaluating earnings management (Beneish 2001; El Diri 2018). It seeks to examine whether discontinuities in earnings are a result of managers' incentives to manage earnings to achieve market expectations or targets. When the benefits outweigh the costs, economic theory indicates that firms manage earnings to reach certain objectives. Graham, Harvey and Rajgopal (2005) found that numerous executives would oversee earnings inside the standards of GAAP to attain benchmarks. Their study determined that the discontinuity in earnings distributions showed a very low (high) frequency of earnings reports in a narrow interval immediately below (at/above) the threshold when managers undertook earnings management to beat earnings benchmarks. In the US, Donelson, McInnis and Mergenthaler (2013) investigated the impact of earnings management on the discontinuity in earnings using firms that violated GAAP. Their study found evidence that managers tend to manage earnings near the benchmark of analysts' expectations, prior-year earnings benchmarks, and zero-profit benchmarks. Because different parties

(such as investors, debtholders, shareholders and the government) are concerned with how well businesses perform, executives concentrate on earnings thresholds (Burgstahler & Dichev 1997). The earnings distribution model is based on examining the discontinuities in earnings distribution around zero, the previous year, and analysts' expectations of the current year (Beneish 2001). The approach posits that unmanaged earnings follow a normal distribution, while earnings management is judged by how far each observation deviates from that distribution (Thomas 1989).

The initial models in this area of research were devised by (Hayn 1995) , then refined by Burgstahler and Dichev (1997) and Degeorge, Patel and Zeckhauser (1999). Burgstahler and Dichev (1997) examine annual earnings while Degeorge, Patel and Zeckhauser (1999) examine quarterly earnings. According to both studies, if companies are more motivated to earn profits over a certain benchmark, the distribution of earnings after earnings management will have fewer (more) observations than predicted for earnings just below (above) the benchmark. Their empirical data supports this, with considerably more observations than predicted in the range above zero earnings and in the range above the preceding period's earnings in both investigations. Earnings are managed in order to fulfil earnings benchmarks, particularly the need to demonstrate positive earnings, according to the visual representations of earnings distributions (Burgstahler & Dichev 1997; Degeorge, Patel & Zeckhauser 1999). These models assessed the earnings distribution in narrow intervals around a target earnings number; therefore, they provided strong evidence of managing the earnings to meet the goals of the company or what the industry expected (McNichols 2000).

In contrast to Burgstahler and Dichev (1997), Myers, Myers and Skinner (2007) found that the frequency of consecutive quarterly EPS increases was greater than would be expected by chance. Also, they examined the correlation between cash flows and accruals for these firms and their use of special items, to provide evidence on how these firms manage earnings. Another study looked at the discontinuities around zero and found that managers manage earnings through sales (upward) and operating expenses (downward) (Plummer & Mest 2001). The power of the frequency distribution approach is that it allows the researcher to make a solid forecast about the frequency of earnings realisations that is unlikely to be linked to the normal (non-discretionary) component of earnings (McNichols 2000). Another benefit of using this approach is to provide specific predictions of firms' managing earnings rather than merely measuring the magnitude of managers' opportunistic earnings (Burgstahler & Chuk 2017).

However, in Australia, Holland and Ramsay (2003) discovered evidence of significantly more small earnings rises and smaller profits than expected, as well as significantly fewer small earnings reductions and smaller losses than expected. While these discontinuities do not necessarily reflect financial reporting process manipulation, they may reflect management's legitimate signalling of inside information about the company's future profitability. In the same vein, Habib and Hossain (2008) conducted a study, also in Australia, using three models (meet, beat, and miss) to examine whether executives managed earnings to meet or beat benchmarks. They found no discernible difference across the models, ruling out the presence of earnings management. Other research contends that the discontinuities around zero could be caused by other factors such as scaling and selection, and the relationship between earnings and price (Burgstahler & Chuk 2015). In contrast with Holland and Ramsay (2003) and Habib and Hossain (2008), Burgstahler and Chuk (2015) claimed that earnings management explains the earnings discontinuities and those factors provide weak evidence. The discontinuities at the threshold can also be the consequence of the special item and accounting choice (Beaver, McNichols & Nelson 2007). The drawback of the distribution approach is that higher earnings are always a sign of earnings management, and the explanation for high earnings may simply be the firm doing well (Dechow & Skinner 2000; El Diri 2018). Also, it is difficult to determine the form and level of earnings manipulation (McNichols 2000). On this basis, aggregate accrual was considered the best approach for meeting the goals of the present study. As discussed in the previous section, applying aggregate accruals to a random sample makes it easier to detect earnings management.

2.3. Literature on Corporate Governance

Corporate governance is defined by Gillan and Starks (1998) as the set of laws, rules, and considerations that govern a company's operations. Corporate governance has also been described as the procedures implemented to routinise the processes, oversee incentive issues and manage all workplace practices that arise as a result of the separation of management and finance from business owners (Richardson et al. 2006). Prior studies have generally agreed that corporate governance characteristics can influence the quality of both audit and financial reporting. Strong governance has long been thought to be essential for increasing the long-term worth for stakeholders in the corporate world (Cohen, Krishnamoorthy & Wright 2002). Corporate governance mechanisms are frequently divided into two categories by researchers: internal and external (Gillan 2006).

The internal governance system includes mechanisms and procedures designed to ensure that the board of directors properly oversees the company's management. This requires that the right people are on the board of directors and its committees, and the structure of shares ownership, financing arrangements, and level of executive compensation/salary are legitimate. External governance refers to the provisions of statutes and company charters that establish the costs to shareholders of questioning management and the board of directors, such as large shareholder and institutional investors, activists, and external auditors (Adams, Hermalin & Weisbach 2010; Baber et al. 2015; Brown, Beekes & Verhoeven 2011; Gillan 2006). According to academic studies, governance weaknesses are linked to poor financial reporting quality, earnings manipulation, financial statement fraud, and poorer internal controls (Beasley 1996; Bronson et al. 2009; Dechow, Sloan & Sweeney 1996).

The present study focused on three areas of corporate governance: external audit, boards of directors and audit committees. Boards of directors and audit committees are examples of internal corporate governance mechanisms while an external audit is an external corporate mechanism.[12] These groups are the three key 'building blocks' of corporate governance, according to Cohen et al. (2007). A firm's overall corporate governance mechanism (i.e., the independence, competence, and diligence of the board of directors and audit committees) plays a critical role in reducing agency problems and improving financial reporting quality (Cohen et al. 2007). The following sections are devoted to providing an overview of those three mechanisms, with a focus on financial experts within the audit committee literature, which is central to this study.

2.3.1. Literature on Audit Quality

As stated previously, the external audit is one corporate governance mechanism, with the auditor responsible for the quality of financial reporting. An audit is only one of many possible monitoring mechanisms designed to mitigate the inherent agency problems in publicly-traded firms (Larcker & Richardson 2004). The auditor's role is to ensure that financial statements are free of material misstatement due to error or fraud, and auditors should make sure that financial statements are prepared according to reporting standards. Auditors play an important role in a company's monitoring system and are thus a vital part of the corporate governance 'mosaic' (Cohen, Krishnamoorthy & Wright 2002). Auditors must work in collaboration with other parties in the corporate governance

[12] The internal audit is an internal governance mechanism, but it is not the focus of this study.

system to ensure stakeholders receive quality financial reports throughout the life of a company, as well as help safeguard their interests (Cohen, Krishnamoorthy & Wright 2002). For example, the auditor must collaborate with the audit committee to analyse and ensure the honesty of financial reporting.

The main purpose and duty of the external auditor has been characterised as providing independent assurance to financial statement users in terms of the truth and fairness of the information reflected in the reports (Becker et al. 1998; Palmrose 1988; Simunic 1980). It is well known that the external audit function is central to agency theory, and that an agency relationship exists when the principal (firm owners) entrusts its agents (firm managers) to perform tasks and services on the principal's behalf (Fama & Jensen 1983; Jensen & Meckling 1976). According to agency theory, an agent/manager who does not own any stock in the company is supposed to behave according to their own best interests. Simultaneously, the principals/shareholders are assumed to have a single goal in mind: to maximise their investment in the company through dividend payments and share price increases. As a result, an agency problem arises, and both the principal and the agent must incur bonding and monitoring expenditures to realign their respective interests, resulting in agency costs (Fama & Jensen 1983; Jensen & Meckling 1976). The hiring of an external auditor would be one strategy used by the owners/principals to realign the interests of the agents and the principals. One of the cornerstones of the audit function is the employment of an external party to assess the credibility of the financial information supplied by the managers and give an audit opinion (Fama & Jensen 1983; Jensen & Meckling 1976). The next sub-sections discuss the definition of audit quality and its five determinants.

2.3.1.1. Definition and Concept of Audit Quality

The quality of the audit, according to Carson et al. (2012), is a broad term that encompasses a large number of factors. This includes company auditor registration, accounting and auditing standards, professional accountancy ethics standards, professional attributes associated with auditors and the auditors' staff, and audit regulators involved in the audit review process.[13] Using the extant scholarship on audit quality, Francis et al. (2004) and DeFond and Zhang (2014) concluded that audit quality

[13] The Australian Treasury (Commonwealth of Australia 2010) and the IAASB (2011) developed audit quality frameworks. The former proposed one for managing the long-term sustainability of audit quality. The IAASB (2011) discussed audit quality from the perspectives of an investor and an audit committee member, noting that audit quality is influenced by input factors (auditor attributes), output factors (the auditor's report), and contextual factors (laws and regulations).

correlates with the quality of financial reporting. DeAngelo (1981, p. 186) defined auditor quality as a variation of 'the market-assessed joint probability that a given auditor will both detect a breach in the client's accounting system and report the breach'. This means that a high audit quality indicates the superior ability of an experienced auditor to find mistakes in financial statements. Another study by Palmrose (1988) described audit quality as associated with fewer mistakes and misstatements in financial statements. A further study divided the drivers for audit quality into demand drivers, such as client risk strategies and agency conflicts, and supply drivers, such as auditor risk management strategies and audit fees (Hay, Knechel & Wong 2006). However, the quality of an audit, according to DeAngelo (1981) and Palmrose (1988), does not reflect information available to the public and is not readily observable by an external financial statement user. DeFond and Zhang (2014, p. 276) defined high audit quality as a higher level of assurance that the financial statements faithfully reflect the firm's economics as a function of financial reporting systems and innate characteristics.

Audit quality contributes to reducing earnings management, as auditors perform a certification task concerning the credibility of financial statements (Alzoubi 2018). As earlier literature indicates, high audit quality will increase investor confidence in the financial statements issued by external auditors (Creswell & Creswell 2018; Oladejo, Jk & Yinus 2020). Simunic (1980) suggested that audit quality is determined by both client demand and auditor supply, which is influenced by the client's and auditor's incentives (for independence) and competencies. According to DeFond and Zhang (2014) the demand for audit quality is driven by client incentives, which are influenced by factors such as agency costs and legislation, as well as the client's expertise in meeting these incentives through elements like the audit committee and internal audit function. Auditor incentives for independence (as defined by factors such as reputation, litigation, and regulatory concerns) and auditor competency in supplying audit quality (as measured by criteria such as expertise and engagement-level audit process inputs) have an impact on audit quality supply (DeFond & Zhang 2014). As a result, audit quality varies depending on the incentives and competencies of clients and auditors.[14]

In order for audit services to be perceived as high quality, financial statement users should assume auditors are independent and have adequate experience and accountability (Salehi, Fakhri Mahmoudi & Daemi Gah 2019). Watts and Zimmerman (1983) specified

[14] The current study concentrates on the client's demand for audit quality using an input-based measure (or indirect) from the DeFond and Zhang (2014) framework.

that any lack of auditor competence or lack of independence may result in the impairment of audit quality. Watkins, Hillison and Morecroft (2004) divided the audit quality dimensions into 'auditor reputation' and 'auditor monitoring strength'. Those two dimensions are expected to determine information credibility and quality.

Since audit quality is multidimensional and inherently unobservable, alternative measures are needed to proxy for the audit procedures (Balsam, Krishnan & Yang 2003; Dechow, Ge & Schrand 2010). According to Krishnan and Visvanathan (2009), because researchers generally believe that the two aspects of the DeAngelo (1981) definition are unobservable, they have adopted two approaches to measuring audit quality: direct and indirect. The direct approach is based on the assumption that the likelihood of discovering and reporting breaches will be reflected in audit outcomes such as auditor errors (Brown & Raghunandan 1995) and financial statement outcomes (Balsam, Krishnan & Yang 2003). The studies that use the direct approach examine audit quality from an ex-post perspective due to their emphasis on audit process outcomes (Kilgore, Harrison & Radich 2014). However, as Francis (2011) pointed out, this approach has significant limitations because it is overly simplistic and has limited generalisability due to the low audit failure rate.

The indirect approach is used in two types of research, both of which consider audit quality assessment from an ex-ante perspective. The first type assesses audit quality by employing surrogates or proxies for quality, such as audit firm size (Craswell, Francis & Taylor 1995; DeAngelo 1981), litigation experience (Palmrose 1988), auditor reputation (Craswell, Francis & Taylor 1995), auditor independence (Salehi 2009), auditor tenure (Geiger & Raghunandan 2002), concurrent provision of non-audit services to clients (Elstein 2001), audit structure (Craswell, Francis & Taylor 1995; Hogan & Jeter 1999) and auditor opinion (Carey & Simnett 2006). The second type takes a behavioural approach to audit quality, examining the attributes associated with audit quality as perceived by parties involved in or affected by the audit process and audit reports. Behavioural researchers indicate that audit quality is more affected by audit firm attributes (Kilgore, Harrison & Radich 2014).

The next sub-section discusses these five determinants of audit quality, followed by a review of the studies that have been published on audit quality.

2.3.1.2. Determinants of Audit Quality

DeFond and Zhang (2014) presented a variety of audit quality input and output

measures based on externally observable data. Based on this study, input measurements are generally obtained from observable auditor characteristics, while output measures are primarily generated from the financial reporting quality of client organisations.[15] Since the focus of this study is client demand for audit quality, only the input measures of audit quality that have received considerable attention in the literature are discussed (DeFond & Zhang 2014). Measures based on inputs can be separated into auditor characteristics (e.g., audit firm size, auditor tenure and auditor industry specialisation) and client-auditor contracting features (e.g., audit fees and non-audit fee).

2.3.1.2.1. Audit Firm Size

Audit firm size is considered to be a conventional determinant for audit quality. Researchers have used a dummy variable for audit firm size membership[16] as a proxy for auditor quality and found support for it (Alareeni 2019; Behn, Choi & Kang 2008; Davidson & Neu 1993; DeFond 1992; Palmrose 1988; Salehi, Fakhri Mahmoudi & Daemi Gah 2019). Arguably, 'Big Four' firms provide superior audit quality due to the sheer size of their employee pools, standardised audit methodologies, and the availability of appropriate second partner reviews (Lawrence, Minutti-Meza & Zhang 2011). It is expected that large audit firms will employ highly experienced personnel who have stronger incentives and greater ability to provide high-quality auditing and thus enhance the quality of financial reporting (Alzoubi 2018; Kaklar, Kangarlouei & Motavassel 2012; Orazalin & Akhmetzhanov 2019). Palmrose (1988) discovered that large auditors enjoy less litigation problems than small auditors, while Teoh and Wong (1993) found that when the auditor is a large firm rather than a small one, the stock price reaction to the announcement of positive unexpected earnings is larger. Becker et al. (1998), Francis and Krishnan (1999), and Lee and Choi (2002), among others, found that big audit firms limit their clients' income-increasing discretionary accruals when compared to the accruals of non-big audit firms. In line with these findings, Frankel, Johnson and Nelson (2002) found that auditors detect earnings management and require clients to make modifications

[15] Francis (2011), Knechel et al. (2013), DeFond and Zhang (2014), and Gaynor et al. (2016) contend that many of these proxies are valid measures of audit quality; however, each proxy indirectly assesses audit quality and has its own flaws.

[16] Arthur Andersen, Arthur Young, Coopers and Lybrand, Deloitte Haskins and Sells, Ernst and Whinney, KPMG, Price Waterhouse Coopers, and Touche Ross were the 'Big 8' firms. In 1989, Ernst and Whinney in the US joined with Arthur Young to form Ernst and Young, while Deloitte Haskins and Sells merged with Touche Ross to form Deloitte Touche. When Coopers and Lybrand and Price Waterhouse joined forces in the US to form PricewaterhouseCoopers in 1997, the 'Big 5' was born (Francis et al. 2004). As a result of mergers between the big audit firms and the dissolution of Arthur Andersen in the wake of Enron's collapse (in 2002), the number of major audit firms dropped from eight to four (Habib et al. 2019).

(especially those that increase income) when they detect it.

A number of empirical studies explain the accuracy gap between large and small auditors with the 'reputation' and 'deep pockets' hypotheses (DeAngelo 1981; Dye 1993; Lennox 1999). The first perspective argued that large auditors have a stronger incentive to deliver correct reports as they value their reputations (DeAngelo 1981). Big audit firms have spent decades creating their brands and reputations. This improves their perceived audit quality in the eyes of their clients and industry participants, potentially leading to clients' willingness to pay a premium for their services (Lyubimov 2019). As result, when it is discovered that an auditor has made a mistake and provided an incorrect report, the auditor may lose money and customers (Lennox 1999). If large auditors charge higher client-specific rents than smaller auditors, a large auditor's rent loss is greater than a small auditor's rent loss. As a result, large auditors should be more motivated to produce very accurate reports (Lennox 1999). The second perspective is the 'deeper pockets' syndrome, which implies that auditors with more money at stake in a lawsuit have a stronger motive to submit truthful reports (Dye 1993).

Nonetheless, the argument can also be made that small audit firms (non-Big Four) can offer comparable audit quality. The audit market for small auditees is likely to be more competitive than for large auditees because there are more prospective suppliers (Simunic 1980). Some research shows that second tier firms (non-Big Four firms) have recently been able to increase the quality of their work and approach the level of the Big Four (Boone, Khurana & Raman 2010; Cassell et al. 2012; Church & Shefchik 2012). Another study (Louis 2005) argued that non-Big Four auditors have a stronger understanding of local markets and better relationships with their customers; they can also uncover irregularities more quickly. Schneider (2017) investigated whether knowledge about companies switching auditors from Big Four firms to regional firms affects commercial lending decisions. He found that neither risk assessments nor probability of granting credit differed for companies that switched auditors from Big Four firms to regional firms compared to companies that did not switch auditors. Another stream of scholars have found that both Big Four and non-Big Four auditors exert about the same amount of total auditing effort, and that any differences in quality between the two could be due to client characteristics (Blokdijk et al. 2006; Lawrence, Minutti-Meza & Zhang 2011). Consistent with these findings, Lawrence, Minutti-Meza and Zhang (2011) explored whether they could attribute the difference in audit quality between Big Four and non-Big Four companies to client characteristics. Their findings show that the

difference in auditors is in large part due to client characteristics in general, and client size in particular.

2.3.1.2.2. Audit Tenure

Audit quality can be measured by audit tenure. Prior literature on audit tenure has generally been presented according to two perspectives. The first view supports the mandatory audit firm rotation or short-term audit to protect 'auditor independence'. The purpose of mandatory audit rotation is to maintain the perception of auditor independence and avoid any close connection between auditor and management (Abbott, Parker & Presley 2012). Long-term auditors can become bound to their clients. The regulation of mandatory audit tenure was enacted following revelations of several auditing scandals. A stream of research has supported audit firm rotation because it maintains auditor independence (Azizkhani, Daghani & Shailer 2018; Cameran, Prencipe & Trombetta 2016; Kyriakou & Dimitras 2018). Research conducted in Iran regarding mandatory audit firm rotation found that the likelihood of a misstatement is lowest in the first two years of audit firm tenure (Azizkhani, Daghani & Shailer 2018).

Kyriakou and Dimitras (2018), in their investigation of the relationship between auditor tenure and audit quality in four European countries (Germany, France, Italy and Spain), found that long tenure threatens auditor independence and diminishes audit quality. Another study discovered that short audit firm tenure is linked to low restatements, less accounting and auditing enforcement actions, and higher audit quality ratings (Bell, Causholli & Knechel 2015). Cameran, Prencipe and Trombetta (2016) agreed with the necessity for audit firm rotation, noting that auditor incentives change over time because auditors seek to renew their contracts and they are more likely to appease the client during the first two terms compared to the last period. Their study suggested that a short tenure helped maintain auditor independence and competence. Brooks, Cheng and Reichelt (2013) claimed that as tenure increases, the quality of financial reporting improves initially but then deteriorates as tenure exceeds a certain point. These results support regulators of mandatory rotation, which assumes long audit firm tenure can undermine auditor independence, leading to poorer reporting quality.

In contrast, the second perspective advocates the 'auditor competence' concept. Research has claimed that long audit tenure increases an auditor's knowledge of the business and thus improves audit and financial reporting quality (Bratten, Causholli & Omer 2019; Carey & Simnett 2006; Frankel, Johnson & Nelson 2002; Jackson, Moldrich & Roebuck 2008). Auditors have substantial financial incentives to keep their

independence, and personnel rotation is sufficient to maintain auditors' scepticism and independence (Francis et al. 2004). Some research on audit tenure has claimed that it is unclear what issue mandatory rotation is trying to solve, and they doubted its effectiveness. For example, Frankel, Johnson and Nelson (2002) concluded that short audit tenure (two to three years) and medium audit tenures (four to eight years) are associated with the issuance of higher discretionary accruals, while long audit tenure (nine or more year) is associated with lower discretionary accruals. Another study conducted in Australia by Carey and Simnett (2006) found that long audit tenure is linked to high audit quality, while Jackson, Moldrich and Roebuck (2008) observed that long tenure increased audit quality when it was measured by the propensity to issue a going-concern opinion. It was unaffected when the relationship was measured by the level of discretionary expenses. Jackson, Moldrich and Roebuck (2008) stated that switching auditors incurs additional costs, and mandatory audit firm rotation yielded no benefits. A recent study in the US by Bratten, Causholli and Omer (2019) claimed that mandatory audit rotation harms both audit quality and financial reporting quality due to business complexity. They claimed that long audit tenure enhances the auditor's opportunities for knowledge creation. Consequently, there is no evidence supporting the need for compulsory auditor rotation. A rotation may result in poorer audit quality for new audits while auditors acquire client knowledge.

Myers, Myers and Omer (2003) found no evidence that extended tenure reduces audit quality (proxied by accounting accruals), and some (poor) evidence that accruals improve with high auditor tenure (i.e., abnormal accruals are smaller and accruals have more predictive ability). Frankel, Johnson and Nelson (2002) reported evidence of inferior audit quality (higher abnormal accruals) in the first three years following auditor transitions, which is consistent with poorer initial audit quality on new engagements. Comparing audit tenure in Big Four and non-Big Four companies, Singh et al. (2019) documented a significant negative relationship between partner tenure and earnings management, with non-Big Four auditors being the primary drivers of this relationship. Meanwhile, they found that during the initial audit engagement period, Big Four auditors are significantly more competent at restraining earnings management and increasing audit quality. By contrast, a study by Achyarsyah and Molina (2014) examined the influence of audit firm tenure and audit firm size on audit quality. They concluded that audit firm tenure has no significant effect on audit quality, while audit firm size does.

2.3.1.2.3. Auditor Industry Specialisation

Audit quality can also be measured by industry specialist audit firms. The industry expertise studies add to the body of knowledge on auditor size by looking into whether quality differential occurs within audit firms. Auditors specialise if they see advantages, such as higher fees or market share from higher quality audits and/or economies of scale (DeFond & Zhang 2014). Because industry specialists have more knowledge than non-specialists of how the industry and accounting processes operate, they are expected to deliver superior audit quality (Dopuch & Simunic 1982). This strongly suggests that professionals are more capable of performing high-quality audits. Furthermore, because industry experts have more reputational capital at stake, they are very motivated to deliver high-quality work (Francis et al. 2004). According to Cahan, Jeter and Naiker (2011), the importance that clients place on industry specialisation may be illustrated by the fact that 80 percent of companies view industry expertise or specialisation as an important factor in choosing an auditor. Some research has looked at market reactions to auditor changes and found a positive (negative) reaction when switching to a specialist (non-specialist) (Knechel et al. 2018; Knechel & Salterio 2016). This is consistent with the belief that experts deliver better service.

A growing body of research shows that industry expertise is an indication of an auditor's technical competence (Balsam, Krishnan & Yang 2003; Craswell 1999; Solomon, Shields & Whittington 1999). The auditor who possesses specific knowledge of the client's business environment is expected to have superior competence and stronger reputation incentives to provide high-quality audits (Wang, Wong & Xia 2008). According to DeFond and Zhang (2014), industry specialisation can occur at various organisational levels. Specialisation at the global and national scale makes more information transfer possible, whereas specialisation at the office context takes advantage of client-specific knowledge and local business conditions. Specialisation at the partner level may capture difficult-to-transfer knowledge and offer stronger individual incentives (DeFond & Zhang 2014). Auditors with more task-specific knowledge, resources, and incentives are more likely to separate the information component of transactions from the background 'noise' of business by deterring, detecting, and questioning irregularities, financial misstatements, questionable accounting practices, and non-compliance with accounting standards, whether by error or design (Abbott & Parker 2000; Balsam, Krishnan & Yang 2003; Cahan, Jeter & Naiker 2011; Dechow, Sloan & Sweeney 1995; Healy & Palepu 2001; McDaniel, Martin & Maines 2002). Industry experts can employ

their expertise to provide more influential audit services, as indicated by improved earnings quality, which could be a proxy for audit quality (Balsam, Krishnan & Yang 2003).

A stream of literature has found evidence that firms audited by auditor specialists have better quality audits (Alareeni 2019; Ball & Shivakumar 2005; Minutti-Meza 2013; Salehi, Fakhri Mahmoudi & Daemi Gah 2019; Solomon, Shields & Whittington 1999). Using Indonesian data, Mukhlasin (2018) found that auditors' industry specialisation enhances audit quality and they are able to detect fraudulent financial reporting. Similarly, Reichelt and Wang (2010) presented a sample of national and city experts as well as non-experts. They detected a link between audit specialisation and audit quality by measuring the propensity to meet or beat analysts' earnings forecasts by one cent per share using the Jones (1991) abnormal accruals model, and by tolerating aggressive earnings management by measuring the propensity to meet or beat analysts' earnings forecasts by one cent per share. Lower abnormal accruals, as a proxy for audit quality, indicate stronger earnings quality, and industry experts are less likely to meet or outperform analysts' earnings predictions by one cent per share. (Reichelt & Wang 2010) discovered that sector specialisation helps auditors produce superior audit quality by limiting earnings management, implying that industry expertise is linked to improved audit quality. Furthermore, the characteristics of errors and methods of error detection differ significantly across industries. As a result, auditors with industry-specific specialists are better qualified to detect errors or deviations than auditors without such specialists (Maletta & Wright 1996). Wright and Wright (1997) reported that auditor industry expertise within the retail industry significantly contributed to clients detecting errors more readily.

Despite extensive research on the subject, definitions and designations of industry specialised auditors are not clear cut. In the literature, two main types of methods are used to identify industry specialists. They are based on either market share or client portfolios (Audousset-Coulier, Jeny & Jiang 2016). The market share approach identifies auditor industry specialists as those who have the highest market share in a given industry (relative measure), whereas other researchers designate them as those whose market share exceeds certain cut-off levels (absolute measure) (Audousset-Coulier, Jeny & Jiang 2016; Hay, Knechel & Wong 2006). A market share-based metric is problematic because market share is determined by the proportion of client firms audited, as well as the average size of those firms. For example, auditing a few relatively large or many relatively small

clients in an industry can result in a large market share of that particular industry (Cahan, Jeter & Naiker 2011; Neal & Riley 2004).

In contrast, the portfolio share approach (or industry concentration) presumes that the industries in which a given audit firm has earned large revenues are areas in which this firm has expended above average resources and efforts to develop industry specific expertise (Neal & Riley 2004). Client industry concentration was usually used as a proxy for auditor industry specialisation. Researchers found that auditors with a large group of clients in the same industry have higher quality audits because their expertise increases (Balsam, Krishnan & Yang 2003; Lowensohn et al. 2007; Reichelt & Wang 2010).

Neal and Riley (2004) have shown that these two approaches generate inconsistent results, and so they proposed that they be combined to form a weighted market share strategy. Audousset-Coulier, Jeny and Jiang (2016) found inconsistent results between 30 measures of auditor industry. Their study showed that these inconsistencies wield a significant impact on the inferences drawn from the models. Consequently, these researchers raised some questions about the robustness of previous empirical evidence.

In addition, some scholars suggest that the industry expertise advantage of an incumbent auditor will diminish once the closest (that is, most similar) competitor starts to compete (Numan & Willekens 2012). Other researchers have been unable to discover data to support the claim that industry specialised auditors execute better audits than non-specialists (Palmrose 1986). In their research, Manurung et al. (2018) stated that audit tenure and auditor industry specialisation do not affect audit quality.

2.3.1.2.4. Audit Fees Services

Previous research has used audit fees as a proxy for audit quality.[17] Auditors' fees and audit quality are two important factors for policymakers, investors, and academics (Billings, Gao & Jia 2014; Mande & Son 2015; Whisenant, Sankaraguruswamy & Raghunandan 2003).[18] An audit fee is an outcome of both supply and demand factors. Auditors cannot charge higher fees for additional effort unless there is a corresponding

[17] Prior studies found two advantages in using audit fees as a measure for audit quality, according to (DeFond & Zhang 2014). First, audit fees are constant, so it is easy to track the variations in quality. Another advantage is that sophisticated fee models with R-squares have been developed in the literature and often exceed 70 percent, which to some extent alleviates concerns about correlated omitted variables (DeFond & Zhang 2014).

[18] Aobdia (2019) found that three audit quality proxies (audit fees, meeting or beating the zero earnings benchmark, and financial restatements) capture a specific metric of practitioners' evaluations of audit quality.

increase in client demand for that additional effort (DeFond & Zhang 2014).[19] However, audit fees are used as a measure in both the demand and supply literature. In studies looking at supply-related issues, audit fees are most commonly used to test whether audit quality is associated with litigation risk and restatement (Chaney, Jeter & Shivakumar 2004; Seetharaman, Gul & Lynn 2002). In studies focused on demand, audit fees are used to measure the effectiveness of the internal corporate governance mechanisms (e.g., boards of directors, audit committees and internal controls) and their association with audit quality (Abbasi, Alam & Bhuiyan 2020; Drogalas et al. 2021; Lisic et al. 2019; Schrader & Sun 2019; Wasiuzzaman, Sahafzadeh & Nejad 2015).[20]

The relationship between audit fees and audit quality is viewed from two perspectives, according to Eshleman and Guo (2014). The first view is 'economic bonding'.[21] This point of view implies that very high audit fees mean the auditor is receiving bribes or economic rents (Kinney & Libby 2002). As a result, charging higher audit fees than the actual workload entailed may impair auditor independence, allowing the client to engage in more problematic accounting practices (DeAngelo 1981). High audit fees were found to be positively associated with absolute discretionary accruals and the likelihood of reaching or exceeding analysts' estimates, according to (Asthana & Boone 2012). Their study argued that audit fees should reflect high quasi-rents rather than a lot of effort. Kinney and Libby (2002) used the Enron case as an example, noting that the actual audit fee was two and a half times the expected usual audit fee in 2000. As a result, Enron's auditor became monetarily entangled with the company's practices and lost their independence.[22] This is possible because audits are done by audit partners rather than audit firms (Eshleman & Guo 2014). This means that the audit partner in charge of a particular audit gets the lion's share of the extra money from the customer, while the risk is dispersed throughout the entire audit company (Trompeter 1994). In contrast,

[19] Different factors influence audit fees. There are factors related to business characteristics (discussed in Chapter Three within the control variables), factors related to corporate governance, and factors related to regulators and stakeholders (discussed in the previous sections).
[20] Researchers have used different measures for audit fees, such as natural logarithms of audit fees (Mande & Son 2015), natural logarithms of total audit fees (audit fees and non-audit fees), and abnormal audit fees (residual value of an audit fee model) (Asthana & Boone 2012; Boone, Khurana & Raman 2010; Doogar, Sivadasan & Solomon 2015; Eshleman & Guo 2014; Hoitash, Markelevich & Barragato 2007).
[21] Abnormal audit fees have been used in some analyses to assess auditor independence (Larcker & Richardson 2004). The residual or unexplained audit charge from a typical audit fee model is known as an abnormal fee, with the premise that the unexplained fee serves as a measure of economic bonding between the auditor and the client (Francis 2011).
[22] In the US, the SOX was passed on 30 July 2002, while in Australia the CLERP 9 was enacted on 25 June 2004.

experimental evidence suggests low audit fees impair audit quality in non-competitive market settings, according to Dopuch and King (1996). However, one analysis by AlQadasi and Abidin (2018) found no evidence of low audit fees impairing audit quality.

The second perspective is referred to as the 'effort view'. Audit fees are expected to reflect the auditor's effort level, which is considered an input of the audit process that is intuitively related to audit quality. DeFond and Zhang (2014) emphasised that high audit quality requires auditors to increase their effort in order to reduce any risk of material misstatement. Increasing effort will mean incurring more expensive fees and, according to this viewpoint, should result in a higher quality audit (Eshleman & Guo 2014). Audit fees tend to be higher when the audit firm works longer hours and/or when it charges a higher rate because it is a better auditor. Low audit fees, on the other hand, reflect less audit effort and, as a result, inferior audit quality. Francis and Krishnan (1999) stated that one method an auditor can use to respond to a higher risk of earnings management is to increase audit effort. Consistent with this view, Eshleman and Guo (2014) found audit fees paid by clients are negatively correlated with the likelihood of using discretionary accruals to match or beat consensus analyst forecasts, implying that high audit fees represent considerable audit effort.

As Srinidhi and Gul (2007) found in their study, audit fees result in higher accruals quality (proxied for audit quality) because audit fees represent more effort than rents. This is consistent with auditors executing less thorough audits when they receive low fees, which leads to a greater likelihood of earnings manipulation (Dopuch & Simunic 1982). Mande and Son (2015) found that the positive relationship between audit fees and audit quality disappeared after the enactment of SOX in 2002. They argued that audit fees reflect a lower proportion of effort than rents. In contrast, Boone, Khurana and Raman (2010) found no association between normal audit fees and audit quality. They found that auditor incentives to deter biased financial reporting differ systematically, depending on whether their clients pay more or less than the normal level of audit fees.

2.3.1.2.5. Non-audit Fee Services

Non-audit services refer to the services purchased from the current auditor by an audit client.[23] Alareeni (2019) referred to non-audit fees as relating to all services

[23] Similar to audit fee services, non-audit services are measured by abnormal audit fee model, logarithm of non-audit fees, logarithm of total of audit fee and ratio of non-audit fee to total audit fees (Alareeni 2019; Frankel, Johnson & Nelson 2002; Singh et al. 2019).

rendered by an auditor that are not classified as an audit service, which may include tax and accounting advice. Issues related to non-audit fees have concerned practitioners, regulators and academics for many years (Abbott et al. 2003a). Studies on the relationship between non-audit fees and audit quality can be divided into two perspectives: 'knowledge spillover' and 'economic bonding'.

Supporters of the knowledge spillover hypothesis claim that the knowledge gained by an auditor while providing non-audit services to an audit client may spill over into the auditing realm, resulting in greater auditor objectivity, independence, audit quality, and lower audit-related costs (Arruñada 1999; Cameran, Prencipe & Trombetta 2016; Dopuch, King & Schwartz 2003; Knechel, Sharma & Sharma 2012; Lennox 1999; Pham et al. 2014; Simunic 1984; Svanström 2013). Joint provision of audit services and non-audit services has several advantages, including cost savings, improved technical capability, enhanced competition, and better auditor professional judgement (Al-Musali Mahfoudh et al. 2019). Furthermore, the joint provision of audit and non-audit services can result in reduced engagement risk (Simunic 1984), improved audit quality (Beck & Wu 2006), decreased earnings management (Koh, Rajgopal & Srinivasan 2013), and shortened audit report lags (Knechel, Sharma & Sharma 2012). Using data based on practices in Spain, Cameran, Prencipe and Trombetta (2016) investigated the relationship between non-audit fees and discretionary accrual, revealing that non-audit fees are negatively and significantly related to accruals. This indicates that a higher non-audit price is related to lower discretionary accruals, which is used as a sign of high audit quality. In the same vein, Bell, Causholli and Knechel (2015) observed that total non-audit fees are positively associated with audit quality for SEC registrants and negatively associated with audit quality for privately held clients.

Advocates of the economic bonding hypothesis contend that an auditor's independence is impaired if an economic bond forms between the auditor and the client in efficient capital markets (Chaney & Philipich 2002; DeAngelo 1981; Habib 2012; Salehi 2009). According to this view, financial statement users may interpret an incumbent auditor's joint provision of audit and non-audit services to a client as a way to increase the auditor's self-interest, economic dependence, and familiarity with the client, or to motivate the auditor to act as an advocate for corporate management (especially in adversarial circumstances), or even result in the threat of self-review with a regulator

(Beattie & Fearnley 2002; Craswell 1999; Quick & Warming-Rasmussen 2005).[24] Similarly, Frankel, Johnson and Nelson (2002) found that providing non-audit services is associated with the likelihood of reporting earnings that meet or slightly exceed analyst expectations, and the magnitude of the absolute value of abnormal accruals. These findings were interpreted as being significant evidence that delivering non-audit services undermines auditor independence and worsens financial information quality (Frankel, Johnson & Nelson 2002).

Non-audit fees result in diminished audit quality, according to Srinidhi and Gul (2007). These researchers interpreted their results as indicating that non-audit fees reflect relatively more rents than effort. Similarly, Ashbaugh, LaFond and Mayhew (2003) and Larcker and Richardson (2004) found that the ratio of non-audit fees to audit fees is positively related to the absolute value of accruals (increasing the earnings management). However, Cohen et al. (2007) observed that non-audit services had a positive relationship with accruals when auditor tenure was short and client size small. Schmidt (2012) documented that non-audit fees are positively associated with accruals, concluding that companies with restatements that purchase more non-audit fees have a greater likelihood of auditor litigation. Suggested here is that juries believe non-audit fees threaten auditors' independence, even when the evidence hints otherwise. Conversely, Reynolds and Francis (2000) and DeFond, Raghunandan and Subramanyam (2002) observed that non-audit fees have no effect on audit quality. DeFond and Zhang (2014) argued that there are several studies that interpret the absence of an association between non-audit services and accruals as evidence that such services are not a threat to audit quality.

Many studies disagree that non-audit fees threaten auditor independence but, nonetheless, investors have been concerned. In a comprehensive literature review, Beattie and Fearnley (2002) documented very little clear support for the argument that joint provision of audit and non-audit fees impairs independence, while Boone, Khurana and Raman (2010) stated that investors penalise companies purchasing non-audit fees from the auditor. Agreeing with this, DeFond and Zhang (2014) clarified that investors' negative perceptions of non-audit fees arose from concerns that non-audit fees increase regulatory scrutiny and litigation risk, even if they do not impair the quality of audits. To protect investors' rights and increase their confidence in the market, regulations were

[24] According to some studies, audit fees are positively linked to the provision or amount of non-audit fees (Palmrose 1986; Simunic 1984). AlQadasi and Abidin (2018), and Herbohn, Tutticci and Khor (2010) found benefits in the joint offering of audit fees and non-audit fees when the two fees are jointly determined.

tightened with the passing of the SOX in the US in 2002, and CLERP 9 in Australia in 2004.[25] These regulations prohibit an auditor from providing most non-audit services to an audit client. The laws are motivated by the belief that the resulting economic bond between auditor and client would impair auditor independence, hence compromising audit quality.

2.3.2. Literature on the Board of Directors' Characteristics

A board of directors is the most important mechanism of company governance (Adams, Hermalin & Weisbach 2010; Brown, Beekes & Verhoeven 2011; Denis & McConnell 2003; Gillan 2006). Boards, according to Hermalin and Weisbach (2003), are endogenously determined, which helps to reduce agency issues that occur in all organisations. Three sorts of members sit on these boards: the Chief Executive Officer (CEO), internal directors who are senior executives within the company, and outside directors (non-executive directors) (Raheja 2005). The board of directors, as the pinnacle of internal control systems, is responsible for advising and monitoring management, as well as hiring, firing, and paying the senior management team (Denis & McConnell 2003; Jensen 1993). The corporate board of directors is likely the most significant single control instrument for managing managerial opportunism (Fama & Jensen 1983). Corporate governance mechanisms in free market economies generally rely heavily on the board of directors. In addition to external markets and institutional and concentrated shareholdings, boards of directors are the primary method of controlling the actions of senior management by shareholders (John & Senbet 1998). The board of directors serves as an important source of internal control. Shareholders entrust the board with making decisions on their behalf (Street & Hermanson 2019). Outside/independent directors are beneficial in lowering agency costs, according to some empirical studies (Adams, Hermalin & Weisbach 2010; Erhardt, Werbel & Shrader 2003; Patelli & Prencipe 2007). The literature has documented that boards of directors with specific characteristics can improve the quality of financial reporting and auditing.

The next two sub-sections provide a review of the prior literature relating to the

[25] Comparing earnings management practices between pre-SOX and post-SOX, Krishnan, Su and Zhang (2011) found that firms with higher reductions in non-audit service fees were associated with greater declines in earnings management (post-SOX). Suggested here is a positive relationship between the amount of non-audit service fees and earnings management (pre-SOX), and that the latter is related to the amount of non-audit service fees. In Australia, Singh et al. (2019) found that firms with limited audit partner tenure and abnormal audit fees had a positive relationship with both absolute and values of discretionary accruals (income-increasing) following the passing of CLERP 9 into law.

impact of a board's characteristics on the quality of financial reporting and audit quality.

2.3.2.1. Boards of Directors' Characteristics and Financial Reporting Quality

Scholars have found that boards of directors are among the most powerful and effective corporate governance mechanisms for monitoring managerial behaviour and constraining earnings management activities (Abbott, Parker & Presley 2012; Abdul Rahman & Ali 2006; Adams & Ferreira 2009; Adams, Hermalin & Weisbach 2010; Habbash, Sindezingue & Salama 2013). The board characteristics discussed in the previous literature are independence, size, competence, stock ownership, meetings (diligence), gender diversity, and CEO duality. These are discussed below.

The board's independence plays an important role in improving how financial statements are disclosed (Brown, Beekes & Verhoeven 2011). Over time, the definition of an independent director has become more stringent, taking into account the individual's background, experience, and tenure (Brown, Beekes & Verhoeven 2011). Academic researchers and policymakers believe that when members of a board are also executives or managers of the same business, the board's efficacy as a regulator may be compromised (Marra, Mazzola & Prencipe 2011). If non-executive directors are to be effective monitors, they must be independent. Financial announcements are perceived to be more credible when audit and board committees are independent and active (Anderson, Gillan & Deli 2005). According to Sharma (2004), the likelihood of financial statement fraud decreases as the percentage of independent directors grows, and financial statement fraud is more likely to be associated with boards of directors that are less independent. In order to restore an organisation's image or reputation after a restatement, companies often concentrate on increasing the board's independence (Street & Hermanson 2019). In addition, earnings management tends to be less in firms with very independent boards (Adams, Hermalin & Weisbach 2010; Busirin, Azmi & Zakaria 2015; Chen, Cheng & Wang 2015; Garcia Osma 2008; Habbash, Sindezingue & Salama 2013; Klein 2002). According to Peasnell, Pope and Young (2005), in their work in the United Kingdom (UK), when there are outside directors on the board, the likelihood of managers recording income-increasing abnormal accruals is reduced. However, Abbott, Parker and Peters (2004) found that including outside directors did not diminish earnings manipulation in Canadian firms.

Another significant aspect of board features that may wield an impact on earnings manipulations is board size. Large boards with a variety of experts on them are related to less earnings management (Habbash, Sindezingue & Salama 2013; Peasnell, Pope &

Young 2005; Zahra & Pearce 1989). Bigger boards may make better decisions by reflecting shareholders' interests rather than being dominated by the CEO, since these boards have more external connections, greater ability to procure funding, and more knowledge and experience in operating a company (Dalton et al. 1999). However, bigger boards can also be ineffectual in their monitoring responsibilities compared to smaller boards (Abdul Rahman & Ali 2006; AlQadasi & Abidin 2018). Smaller boards, according to Jensen (1993), can boost firm value because they are more successful at supervising CEOs, whereas a large but unwieldy board may give the CEO too much power. Smaller boards, with four to six members, may be more successful, according to Goodstein, Gautam and Boeker (1994), since they can make timely and quick strategic decisions if needed. Consistent with this, Karamanou and Vafeas (2005) found that corporate boards are more effective when they are smaller and independent.

Board competence is another characteristic found to influence the level of earnings management. Prior research has looked at board competence in terms of non-executive director expertise and tenure when assessing earnings management behaviour (Habbash, Sindezingue & Salama 2013; Peasnell, Pope & Young 2001). Independent directors who have been on the board for a length of time may improve their governance skills and offer extra information and experience to the company, allowing them to effectively monitor management actions (Abbott, Parker & Peters 2004; Adams, Hermalin & Weisbach 2010; Chtourou, Bedard & Courteau 2001). Chtourou, Bedard and Courteau (2001) and Peasnell, Pope and Young (2001) discovered that the average of outside director tenure is inversely related to earnings management. Results of studies support the contention that independent non-executive directors who have served on the board for a long time have improved their governance skills and given the company more useful experience. This allows non-executive independent directors to keep a closer eye on their company's management and financial reporting procedures (Chtourou, Bedard & Courteau 2001).

The board members' ownership of firm shares is another aspect of corporate life that influences the quality of financial reporting. Directors' shareholding is an important way to align the interests of both shareholders and management, as well as a strategy to oversee managers' actions and policies (Fama 1980; Jensen & Meckling 1976). A director who owns a significant portion of the company is more inclined to question and reject management proposals because their own interests are at stake (Chukwunedu & Ogochukwu 2014). Independent directors who own equity shares in the company will participate actively (Behn, Choi & Kang 2008). According to Raheja (2005), the

ownership of firm shares can be interpreted as motivation for outside directors, entitling them to a portion of a firm's final worth or reputational benefits, such as more future directorships in other firms as a result of high firm value. Outsider ownership is highly and positively associated with the quality of earnings (Hashim & Devi 2009). This finding backs up agency theory's prediction concerning the inducement alignment effect. Outsider director interests are more closely matched with corporate owner interests as outsider ownership grows, providing more incentive to improve the profits being made. Hashim and Devi (2009) detected a negative relationship between outside managerial ownership and earnings management, which is consistent with this alignment effect. Beasley (1996) discovered a significant negative relationship between the likelihood of a misleading financial statement and ownership by outsider directors. His findings suggested that a large percentage of ownership held by external directors helps to reduce the risk of financial statements being falsified. This is because independent directors' wealth is closely linked to investors' wealth. Nonetheless, there is an ongoing debate about the impact of directors' stock ownership on their ability to oversee the financial reporting process (Mangena & Pike 2005). According to Carcello and Neal (2003), directors with substantial stock ownership tend to align themselves with management perspectives in audit disputes. Additionally, Sharma and Kuang (2014) discovered that stock ownership by both non-executive and executive directors on the audit committee heightens the likelihood of aggressive earnings management.

Earnings management techniques have also been shown to be adversely related to board meetings (or diligence) (Habbash, Sindezingue & Salama 2013) and board gender diversity (Adams & Ferreira 2009; Al-Musali Mahfoudh et al. 2019; Gull et al. 2018). The presence of female directors on the board improves business decision-making (Thiruvadi & Huang 2011). The composition of the board has an impact on its monitoring capacity (John & Senbet 1998). Female directors, it is claimed, are more concerned with transparency/full disclosure and quality information disclosure, as well as closely overseeing management procedures (Al-Musali Mahfoudh et al. 2019; Bryce, Ali & Mather 2015). It has been claimed that female directors are more committed and less self-centred than their male counterparts (Huse & Solberg 2006). As a result, board gender diversity has an impact on board governance processes and effectiveness (Adams & Ferreira 2009). Women succeed in demonstrating their ability to play an active role in governance activities, demonstrating their ability to provide more self-reliant oversight and higher quality decisions (Colaco, Myers & Nitkin 2011). According to Mallin and Michelon (2011), increased female board involvement improves board governance by

taking into account the interests of diverse stakeholders and increasing the board's monitoring function.

Apart from board characteristics, board leadership is related to earnings management behaviour. The board chairman plays an important role in mitigating the conflict of interest between management and shareholders (Goyal & Park 2002; Judge et al. 2003; Yasser & Al Mamun 2015). The board's ability to monitor management functions and actions may be harmed by CEO duality (where the CEO serves as chairman of the board of directors) because the dual CEO seeks their own self-interest at the expense of the shareholders and stakeholders (Farber 2005). The separation of the CEO and chairman of the board of directors, according to agency theory, improves the board's independence from management and results in greater monitoring and oversight (Jensen 1993). CEO duality was found in the empirical studies to impact the board's monitoring functions, which could have ramifications for earnings management (Davidson, Goodwin-Stewart & Kent 2005; Habbash, Sindezingue & Salama 2013). According to Fama (1980), Fama and Jensen (1983), and Abbott, Parker and Peters (2004), putting senior executives on the board of directors might create a conflict of interest and jeopardise investor value. To mitigate this risk, boards of directors typically include independent directors who do not have a management position or any business or ownership ties to the company, but nonetheless have deep institutional knowledge and a solid professional reputation. The appointment of independent directors is intended to limit the possibility of collusion with senior management and, more broadly, to alleviate agency issues (Fama & Jensen 1983). A few papers in the US support the idea that CEO duality and earnings management go hand in hand (Davidson, Goodwin-Stewart & Kent 2005; Dechow, Sloan & Sweeney 1996). Consistent with these studies, in research conducted in Australia, Mather and Ramsay (2006) found that CEO duality is positively connected to earnings management behaviour.

2.3.2.2. Board of Directors' Characteristics and Audit Quality

Boards of directors play important roles in improving audit quality (proxied by audit fees). The board of directors is responsible for appointing external auditors, participating in non-audit initiatives with external auditors, re-appointing external auditors, forming audit committees to cooperate with external auditors, and agreeing on audit fees (Nehme 2013; Nehme & Jizi 2018). Previous research has shown that companies with stronger boards of directors had greater disclosures, lower earnings management, and reduced audit risks (Ball & Shivakumar 2005; Dechow & Schrand

2004). According to agency theory, in order to improve monitoring, corporate boards want better audit quality, which in effect means more chargeable hours and subsequently higher audit costs (Wasiuzzaman, Sahafzadeh & Nejad 2015). The empirical literature has proven that board characteristics (i.e., independence, size, competence, diligence, gender diversity, and CEO duality) can influence the audit fee.[26]

There are two competing perspectives when it comes to the impact of independent boards on audit fees. According to one viewpoint, a more independent board cuts monitoring fees by exerting greater control over the monitoring environment, allowing the auditor to minimise both the control risk assessment and the scope of audit operations (Abbott et al. 2003a; Hay, Knechel & Wong 2006). From this perspective, board independence and external audit fees would be substituted. Another view is that a more independent board is concerned with effectively carrying out its monitoring duty, putting further pressure on the external audit function to supplement their responsibility (Abbott & Parker 2000; Bartov, Gul & Tsui 2001; Bronson et al. 2009; Kuang 2011; Nehme & Jizi 2018). Corresponding with agency theory, corporate boards seek greater audit quality in order to improve supervision, which leads to more chargeable hours and therefore higher audit expenses (Jensen & Meckling 1976; Wasiuzzaman, Sahafzadeh & Nejad 2015).

In support of this view, Bliss (2011) claimed that independent board members want greater audit quality, which leads to more work for external auditors and, as a result, higher audit costs. Independent directors have more incentives to demand high-quality audits. First, independent boards and external auditors share the same goal of discovering and correcting managerial reporting inaccuracies in order to alert and benefit shareholders (Al-Thuneibat, Al Issa & Ata Baker 2011; Desender et al. 2013; Hay, Knechel & Wong 2006). Second, independent directors have an incentive to strengthen their monitoring duty by requesting more audit services in order to protect their reputational capital and prevent legal liabilities (Bronson et al. 2009). Also, independent directors' monitoring abilities are constrained by their lack of information relative to corporate leaders. This makes them more reliant on auditors (Adams, Hermalin & Weisbach 2010; Jensen 1993). Finally, non-executive directors are expected to favour more thorough auditing to supplement their own monitoring obligations, as they share the goal of detecting and correcting reporting errors committed by managers, whether intentionally or

[26] The terms 'audit quality' and 'audit fees' are used interchangeably in this section.

unintentionally (O'Sullivan 2000).

The board size was documented by previous literature as being related to superior audit quality. The technical and education backgrounds of corporate directors on a board differ. Boards with a high number of directors benefit from a diversity of director experiences, which improves the ability to control management and understand what it is doing (Zahra & Pearce 1989). Larger boards demand higher audit quality to improve their monitoring capacity and safeguard not just shareholders, but also the interests of the board of directors (Kuang 2011; Nehme & Jizi 2018). Consequently, audit fees will rise, derived from increased work done by external auditors as a result of the demand for improved audit quality (Guest 2008). However, Ellwood and Garcia-Lacalle (2016) discovered that the audit charge is not affected by the size of the board, but legal and consultancy fees are. Audit and consulting requirements are positively related to board size, as is the desire for higher reporting quality. According to Bronson et al. (2009) a larger board with more attentive and independent members provides a higher level of assurance and demands better audit quality. On this basis, more work equates to more billable hours and inevitably the audit costs will rise.

The boards' competence is another factor that influences audit effort. Previous studies acknowledge that boards of directors with specific knowledge and experience can monitor the company management and audit process. Knowledge and expertise held by the board of directors are critical components in assuring the success of a board's monitoring function. While a more independent board may want to limit earnings management, only outside or independent board members with the necessary background may be able to do so. If the board of directors is financially educated, they will be able to understand and address financial statement difficulties. Earnings management is less likely to occur in companies governed by a board of directors with corporate and financial experience and expertise (Habbash, Sindezingue & Salama 2013). Agrawal and Chadha (2005) asserted that corporations with financially knowledgeable boards of directors are less likely to restate earnings. According to the literature on auditor independence, boards of directors with financial knowledge limit the non-audit fees purchased from auditors because they believe that providing such fees affects auditor independence (Fargher, Lee & Mande 2008). A director with financial competence may be more familiar with how earnings can be controlled and will be able to take the required steps to limit earnings management (Abbott, Parker & Peters 2004; Dechow, Ge & Schrand 2010; Habbash, Sindezingue & Salama 2013). Some research has looked into this topic in more detail.

One study detected a substantial negative relationship between increasing board financial expertise and earnings management (Abbott, Parker & Peters 2004), whereas another study found no such link (Habbash, Sindezingue & Salama 2013).

Other studies have viewed board competence in terms of tenure. Long-serving independent directors have more experience and competence in overseeing the financial reporting process. Because experience is job-relevant knowledge gathered over time, it can usually enhance job performance (Fiedler 1970). Procedural knowledge is critical when dealing with accounting issues (Herz & Schultz 1999). Quińones, Ford and Teachout (1995) proposed that procedural knowledge can be taught 'on-the-job,' resulting in knowing how to do the work as it unfolds. As a result of their professional experience, directors with long board tenure are more likely to garner procedural knowledge in this way (Bøhren & Staubo 2014). Because independent directors have less knowledge of the company's activities than other directors, the usefulness of the information they get determines how effective their monitoring will be. Independent directors who have been on a board for longer have more opportunities to learn about the company's internal control systems and business operations over time, as well as develop working relationships with management to obtain more helpful information for their accounting decisions (Bøhren & Staubo 2014).

The prior literature has asserted that board diligence greatly affects the external audit. The amount of board meetings and the behaviour of individual board members surrounding those sessions are examples of the board's diligence. The number of board meetings is the only one of these characteristics that is publicly visible. Not having enough time to accomplish its obligations is a fundamental hindrance to board effectiveness (Lipton & Lorsch 1992). Prior researchers have shown that increasing the number of board meetings can improve board effectiveness (Conger, Finegold & Lawler 1998; Vafeas 1999). Some studies have claimed that more frequent meetings lead to higher audit fees. However, this conclusion might be affected by the supply-based viewpoint, in which auditors correlate more board diligence with more effective monitoring, resulting in less audit work and a lower fee (Krishnan & Visvanathan 2009). The number of board meetings was found to be negatively related to audit fees (Nehme & Jizi 2018). This implies that the more frequently a board meets, the less reliance on external auditors as a monitoring tool they will have.

Active boards have more time and resources to study management practices and assess them against a business strategic plan (MacAvoy & Millstein 2005). Some

researchers found there is a positive relationship between the board of directors' meetings and the level of audits (Bronson et al. 2009; Kuang 2011). Firms with frequent board meetings are more likely to 'purchase' directors' and officers' insurance coverage (Chung et al. 2015). The number of board meetings held throughout a fiscal year is a good indicator of the diligence being shown (Srivastava 2014). In contrast, Beck and Mauldin (2014) claimed that there is no link between audit fees and board meetings. Some literature viewed the boards' diligence in terms of multi-directorships. According to Bronson et al. (2009), members of boards of directors who have held a greater number of directorships are more likely to require high-quality audit work. Furthermore, directors with more multi-directorships are less likely to be involved in profits management (Chtourou, Bedard & Courteau 2001).

A board's gender diversity was found to influence audit quality. Gender diversity on corporate boards has sparked a new governance discussion in the literature, since it has attracted a lot of attention and is now a significant aspect of governance routines (Snaebjornsson & Edvardsson 2013). The existing literature suggests that disparities in decision-making between male and female executives and directors can be explained by differences in over-confidence, risk tolerance, diligence, and monitoring intensity, among other factors (Abbott, Parker & Presley 2012; Faccio, Marchica & Mura 2016; Ittonen, Miettinen & Vähämaa 2010). Gender diversity may improve the functioning and effectiveness of corporate boards (Adams & Ferreira 2009; Fondas & Sassalos 2000; Huse & Solberg 2006). Women on corporate boards are more prepared for board meetings than males, and female participation on boards may improve the overall tone, behaviour and effectiveness (Fondas & Sassalos 2000; Huse & Solberg 2006). Furthermore, women on boards are more likely to be truthful, cautious, and conservative, which reduces the likelihood of financial statements being falsified (Abbasi, Alam & Bhuiyan 2020; Nehme & Jizi 2018). Nehme and Jizi (2018) suggested that having more female directors on boards decreases the amount of work required by external auditors, lowering audit fees. Women directors on boards are more likely to diminish the danger of falsified financial statements while performing their fiduciary obligations because they are more oriented towards sincerity, caution, and conservatism. Having diverse boards results in better governance and firm performance because more varied life experiences will encourage business creativity (Singh & Vinnicombe 2004).

Finally, it should be noted that the results of empirical research on the relationship between CEO duality and audit quality are inconsistent. According to agency theory,

CEO duality raises information ambiguity and agency conflicts (Donaldson & Davis 1991). CEO duality, according to the research, decreases board independence and degrades audit committee performance, raising concerns about audit quality and, consequently, audit risk (Bliss, Muniandy & Majid 2007). Auditors may demand additional audit hours and considerable audit assurance in the context of such inadequate corporate governance practices, activities that will exacerbate audit report lag and increase the audit fees (Habib et al. 2019). In opposing research, some studies found insufficient evidence that CEO or chairperson duality had a significant influence on audit fees (Kuang 2011; O'Sullivan 2000). In support of these studies, Abdullah, Ismail and Jamaluddin (2008) found that the CEO/chairman had a negative but not significant connection with audit quality.

2.3.3. Literature on Audit Committee Characteristics

As mentioned in the previous section, the board of directors is responsible for determining the composition of the audit committee. Following many high-profile accounting scandals, the role of this committee as a governance tool has received a lot of attention. The audit committee is considered the most important corporate governance subcommittee (Cohen et al. (2007). The board of directors assigns some of its onerous responsibilities and monitoring duties to the audit committee or other committees. Research indicates that audit committees oversee three broad areas: financial reporting, internal controls to handle key risks, and auditor activities (Beasley 1996; Brown, Beekes & Verhoeven 2011; DeZoort et al. 2002; Klein 2002).

The audit committee characteristics can influence the quality of financial reporting and auditing. The empirical audit committee literature is both diverse and expansive, with recent years seeing a fast expansion as a result of growing concerns about corporate governance and financial reporting issues. Previous research has confirmed that audit committee effectiveness can be measured by its characteristics (or composition), including independence, size and competence, and audit committee activities have been measured by the number of meetings and multi-directorships. A review of the literature relating to the impact of audit committees on financial reporting and audit quality is presented in the next two sub-sections.

2.3.3.1. Audit Committee Characteristics and Financial Reporting Quality

Earnings management behaviour has also been examined extensively in the context of audit committees. An audit committee is a special committee established by the board

of directors with the primary goal of guaranteeing financial reporting validity and truthfulness (Treadway Commission 1987). According to the research, the characteristics of audit committees have an impact on financial reporting quality. The most commonly examined audit committee features in the literature are independence, size, competence (in term of tenure and financial expertise), diligence (frequency of audit committee meetings), gender diversity and multiple directorships.

Audit committee independence has a positive impact on this body's oversight role of independently assessing presented matters and protecting shareholders' interests, while having a negative impact on earnings management behaviour (Almarayeh, Abdullatif & Aibar-Guzmán 2022; Goodwin-Stewart & Kent 2006; Habbash, Sindezingue & Salama 2013; Hutchinson, Seamer & Chapple 2015; Klein 2002). The audit committee's independence is determined by its membership, which is directly controlled by the board of directors (Pomeroy & Thornton 2008). Also, independence is one of the most important components of an audit committee's effectiveness (DeZoort & Salterio 2001). The presence of an employment, personal or business relationship with management and the firm compromises the independence of committee members (Wu, Habib & Weil 2012). The audit committee members' independence is also critical since the monitoring they provide has an impact on earnings quality and audit quality (Abbott & Parker 2000; Brown, Beekes & Verhoeven 2011). Independent audit committees are linked to greater disclosure quality and reduce debt financing costs (Anderson, Gillan & Deli 2005; Karamanou & Vafeas 2005). According to Bronson et al. (2009), the benefits of audit committees are limited unless they are made up entirely of independent directors.

The requirement for audit committee independence differs from one country to another. For example, in the US, all audit committees must be independent, while in Australia, the majority of personnel on the audit committee must be independent (Abbott, Parker & Presley 2012; Australian Securities Exchange (ASX) Corporate Governance Council 2003). Policymakers expect that a more independent committee will enhance oversight of financial reporting processes and ensure a better quality of company earnings reports by constraining earnings management. A large body of prior research has investigated the effect of committee independence on abnormal accruals and concluded that that the likelihood of aggressive earnings management is lower when all members are independent (Abbasi, Alam & Bhuiyan 2020; Abbott, Parker & Peters 2004; Cohen et al. 2007; Klein 2002). However, some studies have shown no link between audit committee independence and earnings management (Ball & Shivakumar 2005; Baxter &

Cotter 2009).

The size of the audit committee is considered an important attribute that can affect earnings management and it has been found to relate negatively to earnings management (Abbott, Parker & Peters 2002; Abernathy et al. 2014; Al-Musali Mahfoudh et al. 2019). As suggested by Wan Mohammad et al. (2018), the more committee members there are, the higher the quality of financial reporting. They concluded that a large audit committee reduces the need for financial restatement. Several other studies have claimed that the audit committee should be large and hold frequent meetings in order to perform its duties effectively (DeZoort et al. 2002; Karajeh & Ibrahim 2017). However, it has also been asserted that the relationship between audit committee size and the magnitude of earnings manipulation does not exist (Baxter & Cotter 2009; Habbash, Sindezingue & Salama 2013)

The audit committee's competence in terms of financial expertise can also influence financial reporting quality. Although audit committee experience/expertise is thought to be an essential component of effectiveness researchers, legislators and policymaker are concerned about the expertise levels of audit committee members. Audit committee experience/expertise is linked to a range of factors, including more interaction with internal auditors, less financial reporting issues, and more support for auditors in management-audit disagreements (DeZoort et al. 2002). Including financial experts on the audit committee enhances understanding of the business' financial transactions and reporting issues. Abbott et al. (2003a) and Bédard, Chtourou and Courteau (2004) concluded that the more financial experts serving on the committee, the better the quality of earnings. Firms with financial experts on their audit committees are associated with low earnings management (Habbash, Sindezingue & Salama 2013; He & Yang 2014) and are less likely to engage in transfer pricing manipulations (Lo, Wong & Firth 2010). According to previous studies, financial accounting is the primary form of audit committee expertise that improves financial reporting (Bédard, Chtourou & Courteau 2004; Davidson, Goodwin-Stewart & Kent 2005; Defond, Hann & Hu 2005; Dhaliwal, Naiker & Navissi 2010; Krishnan & Visvanathan 2008; Yang & Krishnan 2005). Audit committee financial experts with experience and accounting knowledge bring many benefits to the company and the industry within which it operates. Based on a sample of Australian firms, Sultana and Van der Zahn (2015) found accounting financial expertise was the primary factor influencing earnings conservatism. Baxter and Cotter (2009) presented evidence of a positive relationship between the presence of an accounting

financial expert on the audit committee and the quality of accruals within the organisation. In the same vein, Dhaliwal, Naiker and Navissi (2010) noticed that having more independent audit committee accounting expertise with low tenure and multiple directorships decreases earnings management. Yet it has also been found that non-accounting financial expertise contributes to the effectiveness of audit committees (Goh 2009; McDaniel, Martin & Maines 2002). According to McDaniel, Martin and Maines (2002), non-accounting financial experts are more likely to raise concerns about high-salience items in financial statements that are non-recurring in nature and which receive media attention. Additionally, Goh (2009) found that audit committee members with no accounting expertise are more effective at rectifying material weaknesses in internal control. In short, research has suggested that audit committee members with both accounting and non-accounting financial expertise are able to contribute to the enhancement of their governance skills. However, other researchers have found no link between audit committee financial expertise and the extent of accrual earnings management (Alkebsee et al. 2022; Ghosh & Moon 2010; Van Der Zahn & Tower 2004) and real earning management (Carcello et al. 2006).

The competence of the audit committee is also viewed in terms of tenure, which is considered an important component for constraining earnings behaviour (Yang & Krishnan 2005). Leong et al. (2015) defined audit committee tenure as the length of time spent on an audit committee. Longer tenure strengthens a person's commitment to a company, according to organisational behaviour theory, and experienced personnel are more likely to have gained confidence and competence in their responsibilities over time (Dart 2011). In the previous literature, the average length of time as a member of the audit committee has been used as the measure for tenure (Baxter & Cotter 2009; Bøhren & Staubo 2014; Singh et al. 2019). Committee members with long tenure are expected to possess higher levels of experience, allowing them to gain more firm-specific knowledge and better equip themselves to deal with complicated committee proceedings. This results in improved performance in protecting shareholders' rights (Knechel, Sharma & Sharma 2012; Liu & Sun 2010; Onyabe et al. 2018). Audit committee tenure is also linked to poor earnings management in the literature (Bédard, Chtourou & Courteau 2004; Yang & Krishnan 2005) and high earning quality (Dhaliwal, Naiker & Navissi 2010). Gray and Nowland (2013) used Australian data to conclude that the number of years a newly appointed director has worked in the field is valued by shareholders. However, it is also possible that audit committee member independence deteriorates over time if friendships or social relationships between audit committee members become too close. This can lead

to compromising situations (Singh et al. 2019). Longer-serving audit committee members are more likely to ratify management decisions that harm shareholders' interests, according to the 'management friendliness' hypothesis. This posits that longer-serving audit committee members are more likely to befriend management and are thus less likely to express disagreement on issues like financial reporting quality (Sultana 2015). According to McLaughlin et al. (2021), audit member tenure is positively correlated with corporate scandal. Their study suggested that as tenure length increases, audit committee members lose their independence, and their value diminishes in a rapidly evolving business environment. Members of audit committees who compromise their independence may become complacent, resulting in less effective management oversight. In the post-SOX 2002 environment, Knechel, Sharma and Sharma (2012) found a positive relationship between audit committee members' duration and financial misstatements, implying that audit committee directors with longer tenure are unable to exercise independent judgement.

According to the literature, audit committee diligence is another factor that influences financial reporting quality. This diligence is viewed in terms of activity (frequently meeting) and multi-directorships. According to Stewart and Munro (2007), the more the audit committee meets, the more likely it is to execute its responsibilities effectively. Frequency of audit committee meetings also plays a significant role in allowing time for discussing and solving agency problems associated with management (Knechel, Sharma & Sharma 2012). Furthermore, because the board adopts the audit committee's charter, the frequency of audit committee meetings and the committee's responsibilities are influenced by the board. The more board meetings held, the more audit committee meetings may be held to handle financial reporting and other issues identified by the board (Baxter & Cotter 2009). Many studies have found that audit committee meetings are negatively associated with earnings management (Abbott, Parker & Peters 2004; Bajra & Čadež 2018; Karamanou & Vafeas 2005). These studies support the notion that the more active and diligent the audit committee is, the higher the quality of financial reporting. Conversely, some studies have either failed to find a link or have discovered a positive link between audit committee meetings and earnings management (Ball & Shivakumar 2005; Bédard, Chtourou & Courteau 2004; Ghosh & Moon 2010).

Audit committee members with multiple board seats, according to one perspective, approach their roles with more rigour and ask more probing questions of management to ensure financial statements are not materially misstated or, in fact, false (Jiraporn, Singh

& Lee 2009; Singh et al. 2019) Audit committee members who serve on multiple boards have more corporate governance experience and knowledge, as well as greater skills, due to the complexity and magnitude of the operations they oversee (Tanyi & Smith 2015). However, given a slew of high-profile corporate scandals, it is likely that directors with several board seats, who may be overloaded with work, will not be able to keep a close eye on management at all times (Carpenter & Westphal 2001). In the US, the National Association of Corporate Directors and the Center for Board Leadership (2000) proposed restricting board seats to three for full-time directors and six for retired directors. Such governance reformists say that efficient board monitoring necessitates a significant time and resource commitment from directors, which is hampered by multiple board service. The post-SOX 2002 and Australian Securities Exchange (ASX) Corporate Governance Council (2003) climate, in which audit committee members are required to have greater oversight of internal and external audit matters, has increased the workload of directors. Consequently, having too many directorships can undermine the monitoring obligations in such jobs (Beasley 1996; Lipton & Lorsch 1992; Sharma 2011). A recent study by Ghafran, O'Sullivan and Yasmin (2022) investigated the impact of audit committee busyness on earnings management in FTSE 350 companies and found that busy audit committees are less effective monitors of managers' desire to manipulate earnings, especially during the financial crisis.

Finally, the presence of women directors on audit committees is another factor that influences earnings management. There is evidence that including female members on audit committees boosts the quality of earnings and reduces earnings management (Al-Musali Mahfoudh et al. 2019; Gavious, Segev & Yosef 2012; Thiruvadi & Huang 2011; Zalata, Tauringana & Tingbani 2018). However, some studies found no relationship existed between having female directors on audit committees and accruals (Jansen, Ramnath & Yohn 2012).

2.3.3.2. Audit Committee Characteristics and Audit Quality

As mentioned previously, the audit committee is responsible for overseeing external auditors and heavily influences the audit scope negotiating procedure (Abbott et al. 2003a). Audit committees, for example, frequently examine the audit scope and strategy with the auditor to ensure that what is being covered is adequate. Bronson et al. (2009) looked at audit committee reports and charters and found that the scope of the auditor's proposed audit plan was usually reviewed by audit committees. DeZoort (1997) conducted a survey of audit committee members and discovered that one of their key

responsibilities was to examine the work of the external auditor, implying that audit committees are actively involved in external audit activities. Effective audit committees demand higher quality, which leads to increases in audit fees (Abbott & Parker 2000). Krishnan and Visvanathan (2009) indicated that external auditors are required to provide a higher level of confidence to large corporations with active committee members. Furthermore, Bédard and Gendron (2010) proposed that audit quality is one way to determine the effectiveness of an audit committee. Different characteristics of audit committees have been investigated in the literature to determine their influences on audit quality.

Many studies have claimed that audit committee independence improves the quality of the audit (Abbott et al. 2003a; Bronson et al. 2009; Cohen et al. 2007; Inaam & Khamoussi 2016). The audit committee members' independence is critical since the monitoring they provide has an impact on audit quality and auditor independence (Abbott & Parker 2000). When audit committees comprise more independent members, they provide stronger support for auditors in their reporting decisions than less independent committees (Pomeroy & Thornton 2008). Abbott et al. (2003a) concluded that shareholders are less likely to vote against auditor ratification when audit committees include independent directors. Audit committee independence raises the demand for greater audit coverage (Cohen et al. 2007) and leads to decreased non-audit service. Non-audit service is considered a threat to the auditor's independence (Abbott et al. 2003a). Most researchers have found a link between audit fees and audit committee quality, as evaluated by the independence and accounting or financial skills of its members (Abbott et al. 2003a; Bronson et al. 2009; Charitou, Louca & Vafeas 2007; Herbohn, Tutticci & Khor 2010). These findings strongly suggest that high-quality audit committees have more work to do, which leads to higher audit fees.

Audit committee size was also found to be beneficial to audit quality. Charitou, Louca and Vafeas (2007) and Asiriuwa et al. (2018) documented a positive association between large audit committee size and audit fees. The increase in audit committee member numbers led to demand for a high-quality audit. Previous research has confirmed the notion that audit committee size is related to better performance. However, some scholars have argued that large audit committees suggest a high risk profile (Krishnan & Visvanathan 2009), while Bøhren and Staubo (2014) discovered no significant positive relationship between audit committee size and audit fees. Bédard and Gendron (2010) argued that the size of the committee is not always positively associated with its

effectiveness.

The inclusion of financial experts in audit committees is another factor that was found to effect audit fees. Krishnan and Visvanathan (2009) found that audit fees are adversely related to audit committee accounting or financial knowledge, contradicting the assumption that high audit fees reflect the improvement of audit committee quality. They claimed that high-quality audit committees result in a reduced supply of audit effort. Because they can effectively supervise the financial reporting process themselves, high-quality audit committees have less need to undertake additional audit work. Kalbers and Fogarty (1993) stated that an audit committee with knowledge (expert power) was only necessary for the financial reporting oversight role, suggesting that audit committees can fulfil their other duties efficiently with the help of other parties, such as external and internal auditors. According to these findings, having more informed audit committee members may lead to improved collaboration between auditors and their clients' audit committee members (Cohen et al. 2007).

Based on gender and the type of financial expertise, Abbasi, Alam and Bhuiyan (2020) found that only female accounting experts on audit committees are associated with high audit quality, as measured by audit fees, and beat or meet the zero earnings benchmark. Using Australian data, a study by Goodwin-Stewart and Kent (2006) found that having financial experts on audit committees is associated with higher audit fees when meeting frequency and independence are low. However, Lee and Mande (2005) did not find a relationship between audit committee financial expertise and audit fees. A UK study by Zaman, Hudaib and Haniffa (2011) found no significant association between financial experts on audit committees and audit fees. A New Zealand study by Rainsbury, Bradbury and Cahan (2009), measuring expertise as the presence of one or more qualified accountants on the audit committee, also found no evidence of expertise having a significant impact on audit fees.

DeZoort and Salterio (2001) investigated the influence of audit committee members' accounting and auditing knowledge on the tendency to support the auditor's viewpoint in a disagreement with management over an unclear accounting problem. They discovered that more auditing expertise is positively associated with auditor support but contended that there is no such connection for accounting knowledge. According to Cohen et al. (2007), the non-technical, broad character of the accounting issue at hand may have contributed to the latter conclusion. Conversely, a positive relationship between audit committee expertise and audit fees was interpreted by Abbott et al. (2003a) as

evidence that audit committees demand a better audit quality and, as a result, audit fees are higher. In other words, audit fees may be higher for stronger governance structures.

The tenure of an audit committee is another example of a board's competence that can influence audit quality. Quińones, Ford and Teachout (1995) claimed that procedural knowledge may be gained 'on-the-job', resulting in increased work experience. Audit committee directors with a longer board tenure are more likely to get procedural expertise as a consequence of their job experience. Because independent audit committee members are less educated about the firm's activities than other directors, the usefulness of the information they get determines the effectiveness of their monitoring. Independent directors with longer board tenure have more opportunity to learn about the company's internal control systems and business operations over time, as well as build working connections with management to gather more valuable information for their accounting decisions (Bøhren & Staubo 2014). In a stream of studies investigating the impact of long tenure on audit committee members' ability to perform their duties effectively, some researchers found mixed results. Bøhren and Staubo (2014) documented a negative relationship between the proportion of independent audit committee members serving longer on the board and audit fees. Long-serving audit committee members may not require additional audit effort since they can effectively supervise the financial reporting process themselves, lowering audit expenses (Bøhren & Staubo 2014). In the same vein, Alhababsah and Alhaj-Ismail (2021) found that a longer term of co-tenure between the audit committee chair and engagement partner promotes accrual quality and reduces profitability benchmark violations, but has no significant effect on audit fees. In contrast, others argue that long tenure may impair audit committee independence because a close relationship with management is likely to develop over time, affecting independent judgement (Knechel, Sharma & Sharma 2012; Wu, Habib & Weil 2012).

Academic research has argued that audit committee members with multiple directorships can gain competence and/or knowledge. They are, therefore, in a better position to improve communication between the audit committee and both internal and external auditors, and reduce earnings management complexities (Aldamen et al. 2012; Ferris, Jagannathan & Pritchard 2003; Harris & Shimizu 2004). However, Singh et al. (2019) believed that longer tenure and numerous directorships among audit committee members may lead to increased familiarity between audit committee members and management, as well as higher levels of activity. This, they argued, would lower monitoring and governance quality. Higher levels of audit committee member experience

(tenure and directorships) may result in higher audit fees, reflecting a decline in audit committee effectiveness. As a result, the auditor would perceive larger audit risks and manage these risks by providing more audit work, therefore increasing audit costs (Singh et al. 2019). Using Australian data, Azizkhani, Hossain and Nguyen (2023) found that firms with audit committee chairs with longer tenures and multiple memberships across several boards were more likely to select Big Four auditors and/or industry specialists and pay higher audit fees.

The diligence of audit committee members is another characteristic that guides the quality of the audit. It is expected that audit committees with a high number of meetings per year will improve the audit process because one item on every audit committee meeting's agenda is to address and discuss auditing issues with the external auditor. Prior research has documented a positive relationship between audit committees meeting frequently and audit fees (Abbott et al. 2003a; Goodwin-Stewart & Kent 2006). For this reason, it is expected that more committee meetings will increase audit quality. However, no mandatory rules govern the frequency of audit committee meetings. The Australian Securities Exchange (ASX) Corporate Governance Council (2003) stated that audit committees should meet whenever needed to effectively carry out the committee's duties; at least three meetings per year is suggested. However, Bronson et al. (2009) contended that the audit committee's features and meetings are not related to any increase in auditing work.

Finally, having female directors on the audit committee is another factor that can influence audit quality. Female directors tend to consolidate the committee's monitoring function and demand higher quality auditing work. Women on audit committees are expected to oversee management effectively, thus enhancing audit quality, because they are less inclined to tolerate opportunistic behaviour (Al-Musali Mahfoudh et al. 2019; Zalata, Tauringana & Tingbani 2018). Studies have indicated that female directors on audit committees are more likely to modify audit opinions and increase audit fees (Lai et al. 2017; Pucheta-Martínez, Bel-Oms & Olcina-Sempere 2016). According to Harjoto, Laksmana and Lee (2015), audit committees with female chairmen have lower audit fees, which supports the supply-side argument. According to Thiruvadi (2012), the presence of female directors improves the efficacy of corporate decisions and audit committees. Women's risk aversion contributes significantly to the reduction of false or misleading financial reporting (Lenard et al. 2017). Companies with a high level of commitment to ethical rules and processes are less likely to be involved in litigation or false financial

reporting. Xiang and Qin (2017) suggested that female audit committee directors have academic and professional backgrounds that are associated with a demand for better auditing. Accordingly, the presence of female audit committee directors is negatively associated with financial fraud. The positive relationship between female directors on audit committees and audit fees could be due to increased monitoring by female directors (Abbasi, Alam & Bhuiyan 2020; Aldamen, Hollindale & Ziegelmayer 2018; Lai et al. 2017), whereas the negative relationship between female directors on audit committees and audit fees could be due to limited communication and increased conflicts. This may be explained by the presence of a diversity of members on audit committees (Ittonen, Miettinen & Vähämaa 2010).

2.4. Audit Committee Financial Expertise and Australia's Regulatory Environment

During the late 1990s and early 2000s, several major accounting scandals erupted across the globe due to years of improper financial management and companies' policy irregularities. Examples include Enron and WorldCom in the US, HIH and One-Tel in Australia, and Parmalat in Europe (Aldamen et al. 2012; Habib et al. 2020). Following these high-profile accounting scandals, a slew of regulatory changes was implemented around the world to improve corporate governance practices (e.g., National Association of Corporate Directors [NACD] 1996, Securities and Exchange Commission [SEC] 2000, Joint Committee on Public Accounts and Audit 2002, *Australian Corporations Act 2001*). A key feature of the regulatory amendments was the mandatory appointment of financial experts to audit committees. In the US, the SOX legislation was passed as a means of improving corporate governance generally and the financial reporting process in particular. As part of SOX, companies are required to disclose whether or not their audit committees include at least one member who is a financial expert. The initial definition of financial experts introduced by the SEC was narrow and included only accounting financial professionals. The SEC proposed a narrow definition of financial experts to include only accounting financial experts. This included independent directors with experience in accounting, supervising financial professionals and those overseeing the performance of a company, such as professional chartered accountants (certified public accountants [CPAs]), auditors, CFOs, controllers or chief accounting officers. Later, the SEC broadened the definition of financial experts to include both accounting and non-accounting financial experts. Non-accounting financial experts include directors with experience as CEOs, investment bankers or financial analysts. It was also extended to supervisory experts such as company presidents.

Similarly, the Australian *Corporations Act (Cth) 2001* recommended that audit committees include at least one financial expert with an accounting qualification, experience preparing, auditing, analysing, or evaluating financial statements, as well as experience actively supervising one or more individuals engaged in such activities. The ASX Corporate Governance Council was formed in August 2002, creating the *Principles of Good Corporate Governance and Best Practice Recommendations* in 2003. This placed greater responsibility for the integrity of financial reporting processes on a firm's audit committee and referred to the audit committee's composition, functioning, and responsibilities (ASX Corporate Governance Council 2003). In particular, it stated that firms were now required to disclose whether they had a financial expert on their audit committee. This financial expert had to be 'a qualified accountant' or other finance professional with experience of financial and accounting matters.

There are, however, differences between ASX and SOX in terms of the definition and mandatory appointment of financial experts. The ASX definition of a financial expert does not include a person who possesses non-accounting expertise. However, there is no rule that explicitly states that non-accounting experts cannot serve on audit committees in Australia. The *Corporations Act 2001* does not exclude non-accounting experts from consideration, and people with financial analysis knowledge, valuation, or other finance-related skills may also be accepted. In addition, the Australian Securities and Investments Commission (ASIC), in its guidance on audit committees, emphasises the importance of having a balance between skills and expertise. The board of directors should include members with experience in financial, legal, and other business-related fields (ASIC 2017).[27] Another difference from SOX is that the ASX Corporate Governance Council recommends (but does not mandate) the existence of these experts (a voluntary 'comply or explain' approach). In SOX, financial experts are required to be independent, while this is not a requirement in ASX.

In the Australian regulatory environment, appointing financial experts to audit committees differs from that of other jurisdictions, particularly the US. While both countries enacted regulatory changes in response to accounting scandals, they have unique approaches. In the US, the *Sarbanes-Oxley Act* introduced mandatory disclosures and a broad definition of financial experts. In contrast, Australia emphasises financial

[27] This study adopts the SEC definition of financial experts. The type of financial expertise is not segregated, as appears in Zalata, Tauringana and Tingbani (2018) and Abbott et al. (2003a). Further explanation can be found in Chapter 4.

experts with accounting qualifications but follows a 'comply or explain' approach, offering greater flexibility to companies. Additionally, independence requirements for financial experts in Australia are not as stringent as in the US. These differences highlight the distinctiveness of the Australian regulatory context.

The ASX Corporate Governance Council guidelines introduced in 2003 were subject to amendments. In 2007, a second edition was published, renamed *Corporate Governance Principles and Recommendations* ('best practice' was removed from the title). Further guidance on the list of relationships that affect a director's independence status was added, which aimed to assist boards in determining whether a director is independent for the purposes of the audit committee (ASX Corporate Governance Council 2007). In 2010, the ASX Corporate Governance Council introduced guidelines for gender diversity. Corporate boards were advised to set measurable objectives to become more diverse in terms of gender and to report on the number of women employed by the company. In 2014, a further revision of the guidelines stated that audit committees should include members who understood the company's industry (ASX Corporate Governance Council 2014). The audit committee must ensure the integrity of financial statements by, for example, reducing abnormal accruals, incidents of earnings restatements, and fraud (Asiedu & Deffor 2017).

Some companies may have treated the non-binding ASX recommendations more like 'requirements', given prevailing market expectations around compliance with the recommendations. Most large, listed companies, however, invested considerable time and resources into developing and implementing tailored policies and procedures to support their own internal management requirements and external engagement within the broader general guidelines provided by the ASX. While companies are required to compare their governance practices to the ASX recommendations, the principles themselves unequivocally recognise that there is no 'one size fits all' approach to governance and companies may legitimately adopt different governance practices depending on a variety of factors (e.g., size, complexity, history, and corporate culture).

2.5. Research Gaps and Research Questions

On the subject of audit committee financial expertise, most research has been conducted in highly regulated environments, such as those in the US. However, the US setting differs from that in Australia, described in prior literature as a minimally regulated environment (i.e., the 'comply or explain' approach) (Bhuiyan & Mabel 2020; Sultana & Van der Zahn 2015; Tham et al. 2019). As evident in previous studies, debate surrounds

the type of financial experts (accounting and non-accounting) required and the presence of financial experts on audit committees. Whether only those with direct accounting knowledge should be deemed 'financial experts' has sparked heated controversy in the regulatory, investor, and academic communities. The SEC's final rules allowed those with either accounting ('accounting financial expert') or non-accounting ('supervisory financial expert') financial expertise to be designated as financial experts on audit committees. This was ruled in response to numerous letters sent to the SEC arguing that the original definition was too restrictive and would make it difficult to attract qualified individuals (Securities Exchange Commission (SEC) 2003).

Based on the narrow definition, studies that have segregated accounting financial experts from non-accounting financial experts have found that the former wields more influence on financial reporting quality (Abbott, Parker & Peters 2004; Defond, Hann & Hu 2005; Dhaliwal, Naiker & Navissi 2010; Krishnan & Visvanathan 2008; Sultana & Van der Zahn 2015) and audit quality (Abbasi, Alam & Bhuiyan 2020). Based on the broad definition, some studies have documented that financial experts (both accounting and non-accounting) can influence the quality of financial reporting (Zalata, Tauringana & Tingbani 2018) and auditing (Abbott et al. 2003a, 2003b). Audit committee financial expertise was measured differently in each study. Some analyses used dummy variables, while others used the audit committee's percentage of financial experts.

The only study to explore whether the nature of expertise influences the effectiveness of audit committees by incorporating broad versus narrow definitions of financial expertise was conducted by Dhaliwal, Naiker and Navissi (2010). They examined the US context and discussed the impact of independence, share ownership, multiple boards, and tenure on earnings quality. Their study found that audit committee accounting experts who were independent, held few directorships, had minimal tenure, and low share ownership increased earnings quality for the firm. However, they did not examine other financial expert characteristics, such as gender and industry experience, that may affect the quality of financial reporting. It is also important to note that their study disregarded the effect of financial expert characteristics on audit fees.[28]

A limited number of studies have examined individual audit committee financial expert characteristics as relate to either the quality of financial reporting or the quality of

[28] A summary of the most important prior research regarding the personal characteristics of audit committee financial experts, financial reporting quality and audit quality is presented in Appendix 1.

external auditing. For example, Zalata, Tauringana and Tingbani (2018) examined the effect of financial experts' gender on earnings management, while Abbasi, Alam and Bhuiyan (2020) looked at the impact of financial experts' gender on audit fees. According to both studies, the gender of financial experts can determine the quality of financial reporting and the oversight of external audits. No study has examined the impact of gender on financial reporting and audit quality in the same setting.

Despite the importance of having industry and financial experts on audit committees, not many studies have evaluated the benefit of such expertise in relation to financial reporting quality and audit fees. In a few studies, industry expertise on the audit committee has been examined, but financial experts with industry experience have not been examined in this regard (Alhababsah & Yekini 2021; Wang, Xie & Zhu 2015). A study by Cohen et al. (2014) reported that the combination of both financial and industry expertise is effective in reducing financial restatements and earnings manipulation, and increasing audit quality. The study discovered that accounting financial experts who had industry experience within a particular sector were more valuable in terms of accounting guidance, estimation and for overseeing external auditing. According to the study, every director who had worked previously in the same industry was considered to be an expert in that industry. This was determined without taking into consideration the length of time they worked in the previous organisation and the position held. Also, other financial expert characteristics that could affect the quality of financial reporting and external audit oversight were not accounted for in this study.

Another study concluded that financial industry experts were positively connected with highly readable key audit matters (Velte 2019). Similarly, Zhang and Shailer (2022) suggested that auditors reported fewer key audit matters when their audit committees had more accounting or industry expertise. However, the length of time they worked in the industry was not taken into account in either study. Also, the studies did not examine whether financial experts with industry experience had any impact on the level of earnings management or the audit effort. Moreover, all of the studies that explored industry experience on audit committees used different definitions of industry expertise.

Furthermore, few empirical studies have examined the association between financial experts' multiple directorships when they serve on audit committees, and financial reporting quality or audit fees. One study by Tanyi and Smith (2015) observed that firms with audit committee chairpersons and financial experts who were too busy reported higher levels of abnormal accruals and tended to meet or beat earnings

benchmarks. Krishnamoorthy et al. (2023) concluded that the financial expertise of the audit committee chair was associated with lower earnings management and enhanced audit monitoring. In the same vein, Carrera, Sohail and Carmona (2017) found that financial experts' multiple directorships had a detrimental effect on reporting quality and called on policymakers to limit the number of multiple directorships for committee members. No one appears to have studied the relationship between audit committee financial expert multi-directorships and audit fees.

Most research on audit committee tenure does not differentiate between the tenure of financial experts and that of other members (Bøhren & Staubo 2014; Liu & Sun 2010; Onyabe et al. 2018; Tham et al. 2019). In this current study, financial expert tenure is examined, and in doing so, provides a response to Sun and Bhuiyan (2020) and Alhossini, Ntim and Zalata (2021) who called for further research to fill the gaps in the existing board tenure literature. The tenure of audit committee financial experts in particular needs more investigation.

Moreover, the only study to discuss the share ownership of audit committee financial experts is Bhuiyan and Mabel (2020). They found that audit committee members' share ownership increased audit report lag and the relationship between audit committee ownership and audit report lag was mediated by the quality of financial reporting and the modified audit opinions of external auditors. However, their analysis documented no relationship between financial experts' ownership and audit report lag. It is important to note that no study has examined the impact of financial experts' ownership on financial reporting and audit quality. Therefore, this study goes beyond the current literature by investigating the impact of financial experts' ownership of shares (in addition to other characteristics) on audit fees and earnings management practices.

Until recently, little research has been conducted on the importance of audit committee financial expertise in Australia (Baxter & Cotter 2009; Goodwin-Stewart & Kent 2006; Sultana & Van der Zahn 2015). However, the studies that have been conducted have included sample periods prior to the 2003 legislated amendments to audit committee financial expert requirements. For example, Baxter and Cotter (2009) concentrated on investigating the relationship between audit committee financial experts, earnings quality and earnings management for the years 1993 to 2000, while Goodwin-Stewart and Kent (2006) surveyed the relationship between accounting expertise and audit fees for the top 500 listed firms in 2000. Sultana and Van der Zahn (2015) looked at the overall impact of financial experts (accounting and non-accounting) on earnings

conservatism for only 100 randomly selected firms for the years 2004 to 2008. Only limited research has been conducted on whether the characteristics of a financial expert on an audit committee enhances the effectiveness of the committee. Consequently, it remains an open question as to whether an audit committee financial expert is necessary in the Australian context. With this in mind, this study extends the existing literature by investigating in depth the professional background of financial experts, which is considered one of the most important characteristics of audit committees. This study expected to find that financial experts provide the necessary checks needed to enhance the quality of financial reporting and auditing. This may occur by reducing material errors, irregularities, and managerial manipulation, thus decreasing the magnitude of the audit work required.

Furthermore, when examining the theoretical models proposed by Hillman and Dalziel (2003), Bédard and Gendron (2010), and Cohen, Krishnamoorthy and Wright (2008), it has become evident that there is a need for research to explore how the agency role of financial experts is influenced by resource dependence. Resource dependence theory posits that financial experts on the audit committee with valuable expertise, such as business and industry knowledge, can enhance the effectiveness of the audit committee. This study addresses gaps in the literature and theory by investigating how the personal characteristics of financial experts impact their monitoring effectiveness.

Finally, the proportion of independent directors, how often they meet and how many there are, are now considered outdated indicators of audit committee quality. As stated in prior sections, the characteristics of boards of directors and audit committees have received a lot of research attention. For this reason, it is necessary to investigate audit committee quality in terms of specific characteristics and not just general ones (Bøhren & Staubo 2014).[29] For example, the personal characteristics of financial experts on audit committees have an important influence on corporate governance effectiveness. The following main research question was developed to address the knowledge gaps in this area:

1. Are there associations between audit committee financial experts' individual characteristics, financial reporting quality and audit quality in Australian publicly-listed firms?

[29] For more discussion on the characteristics of boards of directors and audit committees, see sections 2.3.2 and 2.3.3.

The following sub-questions were also developed:

a. Are audit committee financial experts' characteristics (gender diversity, industry expertise, multiple directorships, tenure, and share ownership) associated with the earnings management practices of Australian publicly-listed firms?
b. Are audit committee financial experts' characteristics (gender diversity, industry expertise, multiple directorships, tenure, and share ownership) associated with the audit fees of Australian publicly-listed firms?

Table 2.1 provides an overview of the hypotheses developed to address these research questions, including a list of corresponding studies that examine the relationships between audit committee characteristics and financial and audit quality.

Table 2.1 Hypotheses and Related Studies on the Relationship Between Audit Committee Characteristics and Financial and Audit Quality

Hypothesis	Related studies
H1. There is a negative association between the ratio of female financial experts on an audit committee and financial reporting quality.	(Adams & Ferreira 2009; Al-Musali Mahfoudh et al. 2019; Ammer & Ahmad-Zaluki 2017; Belaounia, Tao & Zhao 2020; Carter et al. 2010; Chijoke-Mgbame, Boateng & Mgbame 2020; Jalan, Badrinath & Al-Gamrh 2020; Krishnan & Parsons 2008; Kyaw, Olugbode & Petracci 2015; Oradi & Izadi 2020; Sun, Liu & Lan 2011; Thiruvadi & Huang 2011; Waweru & Riro 2013; Zalata, Tauringana & Tingbani 2018)
H2. There is a negative relationship between the ratio of audit committee financial experts with industry experience and financial reporting quality.	(Alhababsah & Yekini 2021; Cohen et al. 2014; Faleye, Hoitash & Hoitash 2018; Jensen & Meckling 1976; Olson 1999; Petri & Soublin 2010; Wang, Xie & Zhu 2015)
H3. There is a negative relationship between audit committee financial experts who hold multiple directorships and financial reporting quality.	(Ahn, Jiraporn & Kim 2010; Aldamen et al. 2012; Carcello & Neal 2003; Carrera, Sohail & Carmona 2017; Khoo, Lim & Monroe 2020; Knechel, Sharma & Sharma 2012; Sharma & Kuang 2014; Tanyi & Smith 2015; Tham et al. 2019; Yang & Krishnan 2005)
H4. There is a negative relationship between audit committee financial experts' tenure and financial reporting quality.	(Aldamen et al. 2012; Bédard, Chtourou & Courteau 2004; Chan, Liu & Sun 2013; Dhaliwal, Naiker & Navissi 2010; Dou, Sahgal & Zhang 2015; Garven 2015; Gray & Nowland 2013; Karamanou & Vafeas 2005; Liu & Sun 2010; Sharma & Iselin 2012; Sultana 2015; Yang & Krishnan 2005)
H5. There is a negative relationship between audit committee financial experts' ownership and financial reporting quality.	(Al-Musali Mahfoudh et al. 2019; Archambeault, Dezoort & Hermanson 2008; Bhuiyan & Mabel 2020; Bolton 2014; Cullinan, Du & Jiang 2010; DeZoort et al. 2002; Dhaliwal, Naiker & Navissi 2010; Engel, Hayes & Wang 2010; Garven 2015; Ghosh, Marra & Moon 2010; Knechel, Sharma & Sharma 2012; Sharma & Kuang 2014; Sun & Bhuiyan 2020; Yang & Krishnan 2005)
H6. There is a positive association between the ratio	(Abbasi, Alam & Bhuiyan 2020; Aldamen, Hollindale & Ziegelmayer 2018; Alhababsah & Yekini 2021; Ittonen,

Hypothesis	Related studies
of female financial experts on an audit committee and audit quality.	Miettinen & Vähämaa 2010; Nekhili et al. 2019; Sellami & Cherif 2020; Zalata, Tauringana & Tingbani 2018)
H7. There is a positive relationship between the ratio of audit committee financial experts with industry experience and audit quality.	(Alhababsah & Yekini 2021; Cohen et al. 2014; Velte 2019; Zhang & Shailer 2022)
H8. There is a positive relationship between audit committee financial experts who hold multiple directorships and audit quality.	(Abbott et al. 2003a; Beasley 1996; Carpenter & Westphal 2001; Chan, Liu & Sun 2013; Connelly & Van Slyke 2012; Harris & Shimizu 2004; Karim, Robin & Suh 2016; Lai et al. 2017; Lipton & Lorsch 1992; Singh et al. 2019; Tham et al. 2019)
H9. There is a positive relationship between audit committee financial experts' tenure and audit quality.	(Chan, Liu & Sun 2013; Dou, Sahgal & Zhang 2015; Sharma & Kuang 2014; Sultana, Singh & Rahman 2019)
H10. There is a positive relationship between the audit committee financial expert's ownership and audit quality.	(Beasley 1996; Bhuiyan & Mabel 2020; Carcello & Neal 2003; Engel, Hayes & Wang 2010; Jensen & Meckling 1976; Lambert, Leuz & Verrecchia 2007; Liu, Lobo & Yu 2021; Monks & Minow 2011)

2.6. Chapter Summary

This chapter has provided an extensive review of the literature encompassing the domains of financial reporting quality, corporate governance, and audit committee characteristics. This comprehensive exploration lays the foundation for Chapter Three, where the focus shifts to the examination of theoretical perspectives and the development of hypotheses. Capitalising on the insights gleaned from this chapter, the research inquiries are meticulously formulated and scrutinised. The principal objective is to investigate the associations between the distinctive attributes of audit committee financial experts and the realms of financial reporting quality and audit quality within publicly-listed Australian firms. Within this context, specific sub-queries are advanced to ascertain the effects of these attributes on the management of earnings and the determination of audit fees.

The next chapter provides an additional theoretical perspective by illustrating the

five main theories used to explain corporate governance. It also explains (through reference to prior empirical literature) how each audit committee financial expert personal characteristic is expected to affect financial reporting quality and audit quality. The chapter also presents the main hypotheses that underpin this study.

Chapter Three: Theoretical Perspectives and Hypotheses Development

3.1. Chapter Overview

The previous chapter reviewed the literature published on the quality of financial reporting and explained the method and determinants of earnings management, and the role of corporate governance. In this chapter, the theoretical framework of this study, as well as the empirical literature related to the hypotheses tested, are elucidated. This chapter discusses and compares five theories that have been developed to explain the functioning of corporate governance: agency theory, resource dependence theory, institutional theory, stewardship theory, and stakeholder theory. Following this discussion, a dedicated section provides a rationale for the choice of theories for this study, with a particular emphasis on the application of agency and resource dependency theories in developing hypotheses, presented using a conceptual schema. These hypotheses draw from the empirical literature related to the personal characteristics of audit committee financial experts, as discussed in the previous chapter, and serve as the basis for further investigation. Finally, a summary of the chapter is provided.

3.2. Theoretical Perspective—Corporate Governance

Due to the complex nature of corporate governance, Lajili and Zéghal (2010) stated that different and competing theories have been devised in the management and strategic literature to address the varying requirements of corporate governance characteristics. Although corporate governance does not comprise a single set of theories or one common theoretical foundation, our knowledge of it has been shaped by multiple disciplines (Mallin 2010). As stated above, the corporate governance literature is mainly based on agency theory, resource dependence theory, institutional theory, stewardship theory, and stakeholder theory (Abdullah & Valentine 2009; Keeper 2010; Marie L'Huillier 2014; Psaros 2009). The sub-sections that follow outline each theory and how it relates to corporate governance mechanisms.

3.2.1. Agency Theory

The separation of ownership and management in contemporary companies gave rise to agency theory. This was first introduced by Berle and Means (1932), who described the separation of ownership, control, and management resulting from the wide distribution of ownership stakes in firms. However, Jensen and Meckling (1976) are generally regarded as the first scholars to articulate the theory as an agency relationship and place it in a clear theoretical framework. Further refinements to agency theory were

suggested by Fama and Jensen (1983). An agency relationship, according to Jensen and Meckling (1976) and Fama and Jensen (1983), is formed when the principal (shareholder) delegates some authority to the management (agent) to provide some service on the principal's behalf. Consistent with these studies, Eisenhardt (1989) defined agency theory as the universal agency relationship in which the principal assigns work to its agent.

According to agency theory, shareholders participate as principals in maximising the utility of company management's actions. When both parties in a relationship are utility maximisers, there is strong reason to expect that managers will not always act in the best interests of the owners and shareholders, but instead will act for their own advantage, resulting in an agency problem (Fama & Jensen 1983; Jensen & Meckling 1976). As a result, both shareholders and management face agency fees, often known as monitoring and bonding costs. The best way to control agency costs, according to (Burton 2000), is to limit or negate management discretion through the establishment of structures to make it possible to monitor and control management behaviour.

Agency theory is the most widely used approach to describe and interpret corporate governance mechanisms. According to this theory, corporate governance structures are considered an important mechanism for addressing agency problems in firms. The theory proposes that managers may act in their own personal interests and against those of the shareholders or owners who appoint them (Burton 2000). Therefore, boards of directors, audit committees, the external audit role, and the internal audit function are all considered important mechanisms for monitoring and controlling management behaviours and reducing agency problems such as conflict of interest, asymmetric information, and free cash flow (Dalton et al. 1999; Fama & Jensen 1983; Hillman & Dalziel 2003; Jensen & Meckling 1976; Kosnik 1987).

Finally, it is important to acknowledge that recent studies have raised significant criticisms of agency theory, underscoring the need for a comprehensive evaluation of its utility. For instance, in Gwala and Mashau (2023) analysis of agency theory, a central point of contention lies in its underlying assumption that both agents and principals primarily act out of self-interest and opportunism. Critics have emphasised this assumption as a notable limitation of the theory. Furthermore, agency theory faces several other inherent limitations, including its reliance on uncertain future contracts, the ambiguity surrounding director roles, and a relatively narrow focus on managerial opportunism. It also encounters challenges when attempting to explain contemporary business practices and entrepreneurial dynamics. A particularly noteworthy weakness is

the mechanism for monitoring and controlling agents, which has been the subject of scrutiny. These considerations should be taken into account when applying agency theory in diverse contexts. A critical examination of its assumptions and limitations is essential for a more nuanced understanding of its relevance.

3.2.2. Resource Dependence Theory

The theory of resource dependence emerged in the work of Pfeffer and Salancik (1978). Over the years, this theory has become one of the most dominant in organisational theory and strategic management. Hillman, Cannella and Paetzold (2000) argued that resource dependence theory emphasises the role of directors securing essential resources for their companies by connecting them to external resources. The resource dependence theory explores how organisations' behaviour and decision-making are influenced by their dependence on external resources (Biermann & Harsch 2017). The board's role is not to supervise management, as agency theory implies, but rather to assist management in setting policies and strategies for the company (Cohen, Krishnamoorthy & Wright 2008). As noted by Johnson, Daily and Ellstrand (1996), resource dependence theorists emphasise the importance of appointing independent representatives as a means of gaining access to crucial resources for firm success. Therefore, directors provide a corporation or company with information, skills, and access to key constituents, such as suppliers, buyers, government policymakers, and social groups (Hillman, Cannella & Paetzold 2000). Consequently, the board of directors is crucial to accessing external resources if the firm wants to achieve its business goals and objectives (Psaros 2009).

According to resource dependence theory, the success of a firm is directly related to its ability to control external resources. Ulrich and Barney (1984) stated that this theory's core element is the concept of power/authority, which is defined as the ability to control and distribute important resources. Companies do not possess the resources to operate independently, so they must acquire those resources from other places or companies. The need to acquire those resources makes an acquiring company dependent on the supplying company (Eshleman & Guo 2014). Firms must deal with uncertainty in order to survive, which makes it difficult for them to manage resources and make strategic choices, thereby impairing their operations. In a resource dependence scenario, directors serve to reduce environmental uncertainty and external dependencies by connecting the firm solidly with external factors (Hillman, Cannella & Paetzold 2000; Pfeffer 1972). As noted by Pfeffer and Salancik (1978), to understand the behaviour of an organisation, one must first understand the context in which it operates. Resource dependence theory has

been applied to explain why companies engage in mergers and acquisitions (Haleblian et al. 2009; Haunschild 1993; Payne & Ramsay 2008), and provides an understanding of joint ventures and other inter-organisational relationships, such as strategic alliances, research and development (R&D) agreements, research consortia, and buyer-supplier relationships (Barringer & Harrison 2000; Oliver 1990). It is important to investigate the role of corporate governance mechanisms in maximising company performance (Dalton et al. 1999).

The resource dependence theory can be applied to corporate governance to indicate that efficient mechanisms inside corporations can lead to the creation of resources. This theory's view of corporate governance is premised on the fact that various aspects of corporate governance can serve as critical resources for the firm (Psaros 2009). Corporate governance mechanisms, such as the board of directors, audit committee, internal auditor and external auditor functions, serve as an important link between a company and the crucial resources it needs to improve its financial performance and make profits (Pfeffer & Salancik 1978). So, according to resource dependence theory, the board of directors can reduce environmental uncertainty (Pfeffer 1972), manage external dependencies, and increase organisational legitimacy (Pfeffer & Salancik 1978). From the standpoint of corporate governance, the connections between company and resources effectively explain what resource dependence theory is seeking to do. This nexus of connections is thought to be one of the most important aspects in a company's success (Hillman & Dalziel 2003). Social scientists have focused on the links between corporate governance mechanisms and members of the business elite, capital markets, and competitors (Mizruchi 1996; Mizruchi & Stearns 1988; Stearns & Mizruchi 1993; Useem 1984). Scholars have argued that these links are the key to success (Hillman, Cannella & Paetzold 2000; Hillman & Dalziel 2003).

3.2.3. Institutional Theory

Institutional theory was originally developed by Meyer and Rowan (1977) who examined aspects of corporate business. The theory emphasises that an entity is dependent on institutional elements and social pressures that exist outside its own boundaries, such as industry practices, conventions, business traditions, and management 'fads' (Hoffman 1999; Zucker 1987). In institutional theory, many facets of formal organisational structure, policies, and procedures reflect the views of important stakeholders and prevailing societal attitudes toward acceptable practices (Bealing, Dirsmith & Fogarty 1996; Scott 1987). The reason firms obey rules and regulations is not

just because they boost efficiency, but also because they enhance legitimacy, resources, and survival capacities (DiMaggio & Powell 1983; Meyer & Rowan 1977; Scott 1987). According to institutional theory, many organisational structures such as audit committees are merely symbolic, established to conform to cultural expectations. DiMaggio and Powell (1983) explained that institutional theory defines corporate governance as aligning organisational goals with the expectations of stakeholders, including suppliers, consumers, government/industry regulators and competitors. Institutional theory suggests a divergence between what a firm can accomplish within its structure and what the external environment suggests it should accomplish (Fogarty & Rogers 2005). Cohen, Krishnamoorthy and Wright (2008) argued that institutions tend to organise themselves in a similar manner to other organisations operating under similar conditions. They tend to use the same structures and practices. It is also argued that, in spite of the fact that a large number of organisational forms and practices initially exhibit a lot of diversity, they tend to become homogenised as they develop (DiMaggio & Powell 1983). 'Isomorphism' describes how homogenisation occurs when one unit of the population becomes like another unit facing similar environmental conditions (Cohen, Krishnamoorthy & Wright 2008; DiMaggio & Powell 1983; Zattoni & Cuomo 2008).

There are two types of institutional isomorphism: competitive and institutional (DiMaggio & Powell 1983, 1991). Competitive isomorphism assumes competitive markets and is frequently used to describe how businesses respond to new ideas and innovations in the marketplace, particularly in industries with high levels of freedom, competition, and openness (DiMaggio & Powell 1983). Institutional isomorphism can be implemented via coercive, mimetic or normative approaches (DiMaggio & Powell 1983). Briefly, coercive/regulative isomorphism stems from both formal and informal pressures exerted by other companies upon which the firm relies, as well as the cultural beliefs in which it operates (DiMaggio & Powell 1983). Mimetic/cognitive isomorphism, on the other hand, promotes modelling as a response to uncertainty in the environment by emulating or modelling other organisations. Finally, normative isomorphic pressure is mainly a result of professionalisation. In spite of the differences between different types of professionals within a firm, professionals display a number of similar characteristics (DiMaggio & Powell 1983). According to a study by Meyer and Rowan (1977), companies that adopt institutionalised myths are more successful, legitimate, and have a survival instinct for staying relevant in a given industry.

The ultimate point of institutional theory for corporate governance is that the board

and its committees' functions may be symbolic or ceremonial in uncertain times. For example, the audit committee's ceremonial job could be hiring and discharging the auditor, but its symbolic role could be redefining the corporate relationship with the auditor. This can give the auditor-client relationship more legitimacy in the eyes of investors (Cohen, Krishnamoorthy & Wright 2008; Orton & Weick 1990). The importance of members having the relevant expertise and knowledge is highlighted by audit committees having to achieve legitimacy in the eyes of the public. As a result, it is possible that those appointed to serve on the board will have objective qualifications, such as prior experience and degrees, but not necessarily the capacity to properly supervise management (Cohen, Krishnamoorthy & Wright 2008). Their similar backgrounds send a message to outsiders that the board and its committees are capable and trustworthy (Cohen, Krishnamoorthy & Wright 2008). As a result, board members are chosen from similar backgrounds, making them less likely to confront one another or management (Tuttle & Dillard 2007).

In addition, institutional theory can be used to explain a wide range of issues in corporate governance, including accounting method selection. For example, Fogarty (1992) investigated the Financial Accounting Standards Board's (FASB) standard-setting process and discovered that institutionalisation allows the board of directors to attain tolerable decisional independence through the use of separate procedures and formal assessment criteria. Furthermore, Fogarty (1992, p. 331) noted that the visibility of a firm's processes and outcomes contributed to the 'critical dependence on legitimacy' of the firm. Fogarty's (1992) study analysed the peer review processes of US accounting firms, arguing that these were used as a means of legitimising a largely self-regulated industry. Lastly, Bealing, Dirsmith and Fogarty (1996) studied the early days of the SEC, examining the form, content and rhetoric of early regulatory actions to determine whether there was an attempt to justify the existence and role of the agency.

However, institutional theory has its flaws and is subject to criticism. According to Yazdifar (2003), the theory neglects the firm's relationship with the environment, politics, and culture. Also, it excludes interest-based behaviour and seeks to investigate organisational change processes. Yazdifar (2003) claims that institutional theory does need to be supplemented by other theories for it to be viable.

3.2.4. Stewardship Theory

Stewardship theory was developed and introduced by Donaldson and Davis (1991). The theory relies on a psychological/sociological approach in which the firm's positive

relationships reinforce people's intrinsic desire to achieve more (Dedman 2016). Davis, Schoorman and Donaldson (1997) described stewardship theory as the action of protecting and maximising shareholders' wealth through good firm performance, since this maximises the steward's utility functions. The theory indicates that stewards (e.g., company directors) are motivated to act in the best interests of their principals (Davis, Schoorman & Donaldson 1997). Mason, Kirkbride and Bryde (2007) stated that the stewardship model emphasises there must be a culture of trust between the manager and the principal. According to stewardship theory, the CEO and chairperson should be united to reduce agency costs and to play a greater role as stewards of the company (Abdullah & Valentine 2009). Unlike agency theorists, stewardship theorists focus on non-economic influences that drive managerial behaviour (Mason, Kirkbride & Bryde 2007).

This theory views managers as good stewards of organisational resources for a variety of reasons. First, a prudent steward should protect and maximise shareholders' wealth and in this way generate trust in what the company is doing (Davis, Schoorman & Donaldson 1997; Donaldson & Davis 1991). Second, some senior managers have been shown to be motivated by intangible, intrinsic rewards, such as opportunities for growth, promotion, and affiliation, rather than rewards that can be quantified in dollars (Davis, Schoorman & Donaldson 1997; Donaldson & Davis 1991). Third, managers who identify themselves as members of a particular organisation and take on its objectives, mission, and vision have been shown to attribute success to themselves and to enhance their self-image and reputation (Ashforth & Mael 1989; Katz & Kahn 1978; Kelman 1958, 1961; Salancik & Meindl 1984; Staw, McKechnie & Puffer 1983). Fourth, it is important to note that engaging in opportunistic behaviours and actions can compromise the reputation of managers (Barney 1990; Donaldson 1985; Donaldson & Davis 1991).

According to stewardship theory, corporate governance is based on managers being good stewards of the company's assets and working diligently to maximise shareholder returns (Donaldson 1990). The theory shows that in the presence of intrinsically motivated managers who seek job fulfilment and self-actualisation rather than monetary reward, there is less pressure on boards of directors to rigorously monitor managers' performance (Barney 1990; Donaldson & Davis 1991; Psaros 2009). As a result, the emphasis on independent participation on firm boards and subcommittees is unnecessary and potentially counterproductive, because empowering management and having minimal independent director involvement is ideal for shareholders and their dividends (Barney 1990; Donaldson & Davis 1991; Psaros 2009). Stewardship theorists contend

that the core purpose of corporate governance should not be to motivate the CEO but rather to provide facilitative, empowering structures to enhance effectiveness and deliver superior returns to shareholders (Donaldson & Davis 1991). In this view of corporate governance, the emphasis is on enabling and empowering structures rather than monitoring and controlling them (Davis, Schoorman & Donaldson 1997). In general, stewardship theory contends that the form of corporate governance is less relevant.

3.2.5. Stakeholder Theory

Stakeholder theory takes a larger view of a company, with shareholders being just one of many possible stakeholder groups (Blair 1995; Clarkson et al. 1994; Donaldson & Preston 1995; Freeman 1984). Stakeholder theory incorporates agency theory, in that it holds that the board of directors must protect both shareholder and stakeholder interests (Freeman 1984; Freeman 2010). This theory emerged as a result of the formation and subsequent development of company aims and goals, which required a full understanding of the interaction with multiple stakeholder groups with whom the organisation is involved (Freeman 1984). According to Freeman (1984), stakeholders are any individuals or groups that can affect or are affected by an organisation's objectives. Donaldson and Preston (1995) defined stakeholders as individuals or groups with legitimate interests in procedural and/or substantive aspects of company activity. Clarkson et al. (1994) elaborated on the importance of the stakeholder theory in achieving a corporation's aims and objectives, as well as the interdependent primary stakeholder's relationship, without which a firm may not be able to survive as a going concern. The purpose of stakeholder theory, according to Logsdon and Wood (2002), is to explain how corporate managers understand their stakeholder environments and manage more effectively within the nexus of relationships that exist within their companies. Chiu and Wang (2015) stated that stakeholders are those who have a stake in a firm and who are potentially exposed to risk, such as shareholders, creditors, employees, public interest groups, customers, suppliers, governmental agencies, and communities.

According to stakeholder theory, managers are required to fulfil their fiduciary commitments to all stakeholders and preserve their long-term interests, influencing the board's role (Freeman 2016). Stakeholder management assumes that the firm's key or direct stakeholders, such as owners, managers, employees, and customers, are treated fairly, as well as indirect groups such as creditors, suppliers, and competitors (Schilling 2000). Scholars have used different methodological strands to contribute to the stakeholder concept. They have classified stakeholders into narrow and wide entities

(Evan & Freeman 1993); primary and secondary stakeholders (Clarkson et al. 1994; Collier & Roberts 2001; Donaldson & Preston 1995; Hill & Jones 1992); active and passive stakeholders (Mahoney 1994); and as direct and indirect stakeholders (Schilling 2000). A primary stakeholder is a party with a direct and contractual relationship with the organisation, whereas a secondary stakeholder is one without a contractual relationship (Collier & Roberts 2001; Fassin 2012). Phillips (2003) offered yet another classification of stakeholders, dividing them into normative and derived groups. Normative stakeholders are those to whom the corporation has a moral obligation of fairness, whereas derivative stakeholders, such as competitors and activists, have the power to profit or hurt the company and are owed no moral obligation by the company (Fassin 2012; Phillips 2003).

Stakeholder theory, according to numerous researchers, is a more valid and morally acceptable framework for addressing corporate governance issues (Blair 1995; Clarkson et al. 1994; Donaldson & Preston 1995; Freeman 1984). Normative stakeholder theory provides corporate governance rules that focus on how enterprises should be governed and to whom managers should be accountable (Donaldson & Preston 1995). Corporate governance and stakeholder theory have been studied with reference to the representation of stakeholders on the firm's board, the perception of stakeholders by board members, and the effects of board composition on a firm's stakeholder performance (Ayuso et al. 2014). The stakeholder approach to corporate governance has been proposed as economically efficient, based on the argument that firms taking the interests of stakeholders (suppliers, clients, employees and communities) into account and developing trusting relationships with them can build competitive advantages that lead to superior corporate performance (Svendsen 1998). The stakeholder viewpoint shifts the governance effort away from maximising shareholder wealth towards enhancing a company's long-term worth (Jensen 2001). According to the stakeholder approach, corporate governance mechanisms such as external audits and boards of directors are effective monitoring methods for safeguarding all stakeholder interests. They also help companies avoid earnings management techniques, which improves the quality of financial reporting (Alhadab & Clacher 2018).

The stakeholder theory, however, has been criticised by many scholars because it ignores a business's basic function, which is to maximise profits and shareholder value. The lack of *specific* accountability in a business where everyone is accountable may lead to failure. Furthermore, Chakrabarty and Bass (2014) argued that stakeholder theory

recognises that boards are influenced by both internal and external groups, but it ignores the possibility that the absence or ineffectiveness of external institutions can hinder the board's ability to direct and control the firm.

3.2.6. Theory Selection

The above discussion confirms that five theories play significant roles in corporate governance research. Among all the theories applied to explain corporate governance, agency theory remains the most widely used. Prior research has combined other theories with this particular theory to generate more valuable insights into the effectiveness of corporate governance mechanisms (Ben-Amar et al. 2013; Gray & Nowland 2017; Singh et al. 2019; Sultana 2015). Other theories on the issue of corporate governance provide their own perspectives on this topic.

Institutional theory assumes that firms adopt policies and regulations to ensure their legitimacy and conform with what other companies do (Meyer & Rowan 1977). A fundamental issue in both agency theory and institutional theory is the principal-agent issue (Donaldson & Davis 1991). This is an outcome of the conflict of interest between a principal and an agent and how the principal holds the agent responsible for achieving their preferred outcomes. Institutional theory, in contrast to financial incentives-driven agency theory (Donaldson & Davis 1991), emphasises the non-economic motivations (such as the quest for legitimacy) that drive human behaviour (Eisenhardt & Bourgeois 1988). The central idea of agency theory is that much organisational action is driven by efficient information and risk-bearing costs. The central idea of institutional theory is that much organisational behaviour is driven by imitative forces and firm traditions that have evolved over time and become legitimated within the organisation and its surroundings. Agencies view individuals as rationalists looking out for their own interests (Berle & Means 1932; Eisenhardt & Bourgeois 1988; Zeckhauser & Pratt 1985), while institutional theorists see individuals as legitimately seeking satisfaction (Eisenhardt & Bourgeois 1988; Meyer & Rowan 1977).

Stewardship theory takes a psychological/sociological perspective on human behaviour and assumes that management works to protect and maximise shareholders' wealth through improving how well the company does business (Davis, Schoorman & Donaldson 1997). Stewardship theory and agency theory describe how the corporate board can create shareholder wealth by emphasising the relationship between shareholders, directors, and management (Donaldson & Davis 1991). Stewardship theory, however, offers an alternative view of managerial motivation to agency theory (Barney

1990; Donaldson 1990; Donaldson & Davis 1991), while agency theory focuses on the principal-agent interest divergence that results from individualistic utility motivations (Berle & Means 1932). Theorists of stewardship recognise the complexity of organisational life and propose that a combination of situational/cultural and psychological elements predispose an executive to become either a steward or an agent (Davis, Schoorman & Donaldson 1997; Donaldson 1990; Donaldson & Davis 1991; Doucouliagos 1994; Platt 1970). Scholars have attested that parties who approach a principal-manager relationship with a long-term perspective may vary from the starting position—either agent or steward—as they learn through the interactions that take place (Pastoriza & Ariño 2008).

Stakeholder theory proposes that managers are stakeholders who have an important network of relationships (e.g., supplier or client) that helps to meet the organisation's objectives, thus benefiting the owners. Stakeholder theory, according to some experts, is an extension of agency theory (Donaldson & Preston 1995; Evan & Freeman 1993; Hill & Jones 1992; Shankman 1999). While agency theorists concentrate on the shareholder model of corporate governance, which suggests that shareholders have a moral and legal right to direct a firm as a result of their ownership investment (Brickley, Smith & Zimmerman 2015), stakeholder theorists contend that this moral and legal right should be extended to all stakeholders including employees, creditors, clients, and the wider community (Etzioni 1998; Freeman 1984). In stakeholder theory, managers make decisions and allocate resources so that they protect the interests of each stakeholder group, thus becoming stakeholders' agents, not just shareholders' agents (or debt holders) (Hill & Jones 1992). Stakeholder theory, therefore, brings multiple interests into the agency model of the firm. Stakeholder theory has underlying perspectives that are distinct from agency theory (Hillman & Dalziel 2003). Stakeholder theory focuses on the economic aspects of human behaviour by assuming human beings are rational utility maximisers and motivated to work only for economic or financial advantage (Collier & Gregory 1999; Donaldson & Davis 1991; Hillman & Dalziel 2003). In contrast, stakeholder theory emphasises a firm's corporate social responsibility (Blair 1995; Clarkson et al. 1994).

These theories (institutional, stewardship, and stakeholder) are very different from agency theory, which concentrates on the economic aspects of human conduct, positing that people are utility maximisers motivated only to act for their own financial gain (Collier & Gregory 1999; Donaldson & Davis 1991; Hillman & Dalziel 2003). The agent-

principal relationship is recognised in agency theory, which states that the agent will always be driven to protect their own interests (Eisenhardt 1989; Watts & Zimmerman 1983). There is, however, no clear explanation in agency theory for the association between diversity on audit committees and organisational performance (Carter et al. 2010; Gull et al. 2018). Based only on agency theory, all independent directors are effective monitors, ignoring the other directors' abilities or desires to enforce effective monitoring (Hillman & Dalziel 2003; Hillman, Withers & Collins 2009).

Academic researchers have criticised those using only agency theory because this theory alone does not provide a clear explanation of the relationship between corporate governance effectiveness and firm performance (Dhaliwal, Naiker & Navissi 2010; Gull et al. 2018). Consequently, although agency theory remains important and has been used extensively in corporate governance research (Dalton et al. 2007), some scholars believe there is more value in looking at corporate governance from the perspective of resource dependence theory (Johnson, Daily & Ellstrand 1996; Udayasankar 2008; Zahra & Pearce 1989). Ben-Amar et al. (2013) and Hillman and Dalziel (2003) argued that resource dependence and agency theories can produce more insights into how corporate governance mechanisms should operate. Therefore, resource dependence theory has been incorporated with agency theory to provide meaningful insights on the effectiveness of audit committee financial experts' personal characteristics on the audit task and the quality of financial reporting (Ben-Amar et al. 2013; Dhaliwal, Naiker & Navissi 2010).

Resource dependence theory is concerned with how management controls relevant parties to get the critical resources that a company requires (Pfeffer 1972; Pfeffer & Salancik 1978). According to resource dependence theory, directors extract human capital resources from other directors to improve firm performance (Pfeffer 1972). Hence, Dhaliwal, Naiker and Navissi (2010) and Cohen, Krishnamoorthy and Wright (2008) highlighted the need for studies to investigate how the agency role of audit committees is influenced by the resource dependence focus of other financial experts on audit committees. Resource dependence theory suggests that financial experts with valuable expertise, such as business and industry knowledge, can also contribute to audit committee effectiveness. In agency theory and resource dependence theory, advocates stress the need for 'human-actor dependent' corporate governance mechanisms. These include boards of directors, audit committees and other such mechanisms that are designed, balanced, and structured to achieve group cohesion (Sultana 2015).

Resource dependence theory acknowledges the ongoing struggle for power and

influence among different groups of stakeholders over resource allocation decisions, but agency theory largely ignores it (Pfeffer & Salancik 1978). Hillman and Dalziel (2003) argued that corporate governance can be viewed through the lens of agency and resource dependence theory. Both these theories view corporate governance as a part of business operations that benefits 'the bottom line' in a variety of ways (Udayasankar & Das 2007). Combining both theories, this current study adopted a theoretical framework that links audit committee financial experts' personal characteristics (gender, industry experience, multi-directorships, tenure, and share ownership) to financial reporting quality and audit quality.

3.3. The Study's Conceptual Framework

Based on prior research, agency theory and resource dependence theory, this study centres on the impact of audit committee financial experts' personal characteristics on the quality of financial reporting and external audit. The magnitude of earnings management was used as an indicator for the quality of financial reporting.[30] Low earnings management reflects the high quality of reporting, while high earnings management indicates the opposite. Previous studies have documented that audit committee characteristics, such as financial or accounting expertise, gender diversity (female), industry experience, multiple directorships (outside or external seats), tenure and share ownership, reduce earnings management (Abbott, Parker & Peters 2004; Dhaliwal, Naiker & Navissi 2010; Leong et al. 2015; Tham et al. 2019; Zalata, Tauringana & Tingbani 2018). Consequently, this study assumes the characteristics of financial experts have similar influences on the quality of financial reporting as the characteristics of audit committees. Agency theory positions agency problems as a consequence of information asymmetries and varying motivations between shareholders and corporate managers (Jensen & Meckling 1976). As a result of self-interest, agents may have reservations about the reliability of the information they provide, resulting in compromised corporate financial reporting that undermines the firm and its principals (Harrell & Harrison 1994; Harrison & Harrell 1993; Rutledge & Karim 1999; Tuttle, Harrell & Harrison 1997). Thus, an audit committee that includes financial experts who reflect gender diversity and industry experience, have served for a long time, or who hold multiple directorships, can bring to the firm the previous learning, experience, industry knowledge, and contacts they have developed. As a result, such expertise can generate a lot of resources for the firm to

[30]Different measures have been developed in prior studies to capture earnings management. For more information, see section 2.2.3.

use, and thus it is advisable to include financial experts who are female and have industry knowledge on audit committees to reduce agency-related costs and asymmetric internal information.

On the other hand, it has been suggested that higher audit fees are a key indicator of quality audits performed by external auditors (Abbott et al. 2003a; Hribar, Kravet & Wilson 2014; Zaman, Hudaib & Haniffa 2011). Audit committees are responsible for overseeing financial reporting by interacting with external auditors (Klein 2002). The audit scope and plan, as well as audit fees, are influenced by the governance quality of audit committees. To protect their reputational capital and reduce litigation risks, high-quality audit committees are more likely to invest in more detailed auditing requests. According to previous studies, audit fees are positively correlated with audit committee quality as measured by financial or accounting experts, gender diversity, industry experience, tenure and the multiple directorship of the committee members (Abbasi, Alam & Bhuiyan 2020; Abbott et al. 2003a; Alhababsah & Yekini 2021; Bhuiyan & Mabel 2020; Bhuiyan, Rahman & Sultana 2020; Carcello et al. 2002; Chan, Liu & Sun 2013; Lee & Mande 2005). Since the financial expert plays a significant role in determining the effectiveness of board committees, the financial expert's personal characteristics (i.e., gender, industry experience, multiple directorships, tenure, and share ownership) are expected to enhance the effectiveness of the audit committee and therefore increase the demand for better auditing. According to Velte (2019), financial and industry expertise strengthens the knowledge of audit committees in supervising the financial reporting process and the external audit.

From the resource dependence theory perspective, firms will strive to minimise the uncertainties that originate from external pressures such as competition, regulation, and social forces by utilising the skills, information, and other resources of its board members (Boyd 1990; Pfeffer & Salancik 1978). It is argued that financial experts on audit committees (with their diverse and wide-ranging backgrounds, skills, knowledge, and expertise) are striving for superior audit quality, which gives rise to higher audit fees and, therefore, improves earnings quality. From the agency theory perspective, audit committee financial experts function as monitors or agents of the principal (shareholders) to ensure that the interests of shareholders are protected. By influencing the selection and retention of the external auditor, providing guidance and oversight to the external auditor during the audit process, and reviewing and providing feedback on the auditor's work, financial experts can help resolve the agency problem. This can be achieved by aligning

the interests of management with those of shareholders and mediating disagreements between corporate management and the external auditor. High fees ensure that there is less information asymmetry and facilitate proper resource allocation decisions made by stakeholders because the financial information is trustworthy (Krishnan 2003).

Agency theory seeks to explain the impact of ownership and the number of audit committee financial experts on reporting quality and audit quality. This study suggests that financial experts' ownership aligns with the interests of owners and motivates them to monitor any evidence of management manipulation effectively and reduce conflicts of interest and information asymmetry that occur between managers and owners (Baxter & Cotter 2009; Tham et al. 2019). Experts with a greater stake in the firm have more 'skin in the game', thus they have a greater incentive to protect the value of their own investments (Cremers et al. 2009). For this reason, they may be more critical and sceptical of financial reporting and earnings management practices, in order to identify and address suspicious behaviour. They may also increase the demand for better auditing to be undertaken (Abbasi, Alam & Bhuiyan 2020). The company director's ownership is considered a way to align the interests of both owners and managers, and monitor the behaviour of the latter (Fama & Jensen 1983; Jensen & Meckling 1976). Regarding the number of financial experts, the literature shows that a higher proportion of financial experts (accounting and non-accounting) on an audit committee reduces agency problems by aligning the interests of shareholders and corporate management, as well as by limiting managers' temptations to act opportunistically (Abbott, Parker & Peters 2004; Bédard, Chtourou & Courteau 2004; Davidson, Goodwin-Stewart & Kent 2005; Dhaliwal, Naiker & Navissi 2010; Rainsbury, Bradbury & Cahan 2009; Sultana & Van der Zahn 2015). Audit committee financial experts are typically appointed by shareholders and are responsible for overseeing the financial reporting and accounting practices of the company. Consequently, they can act as monitors to ensure that management is acting in the best interests of shareholders. By pushing for higher audit fees and a more thorough examination of the company's financial statements, they help to reduce the magnitude of earnings management and improve the quality of financial reporting (Abbott et al. 2003a).

The close relationship between audit committees' financial experts and earnings management, as well as audit effort, contributed to the theoretical framework devised for this study. Based on the literature and theories deployed in this study, the conceptual

schema shown in Figure 3.1 represents a set of testable hypotheses.[31] As outlined in the schema, the five key components of financial experts' characteristics (i.e., gender, industry experience, multiple directorships, tenure, and share ownership) are negatively correlated with earnings management and positively correlated with audit fees. A theoretical framework of agency theory and resource dependence theory is applied to determine how gender, industry experience, multiple directorships, and tenure relate to earnings management and external audit. Agency theory is also applied to explain the relationship between financial experts' shares, their size, and earnings management and audit fees.

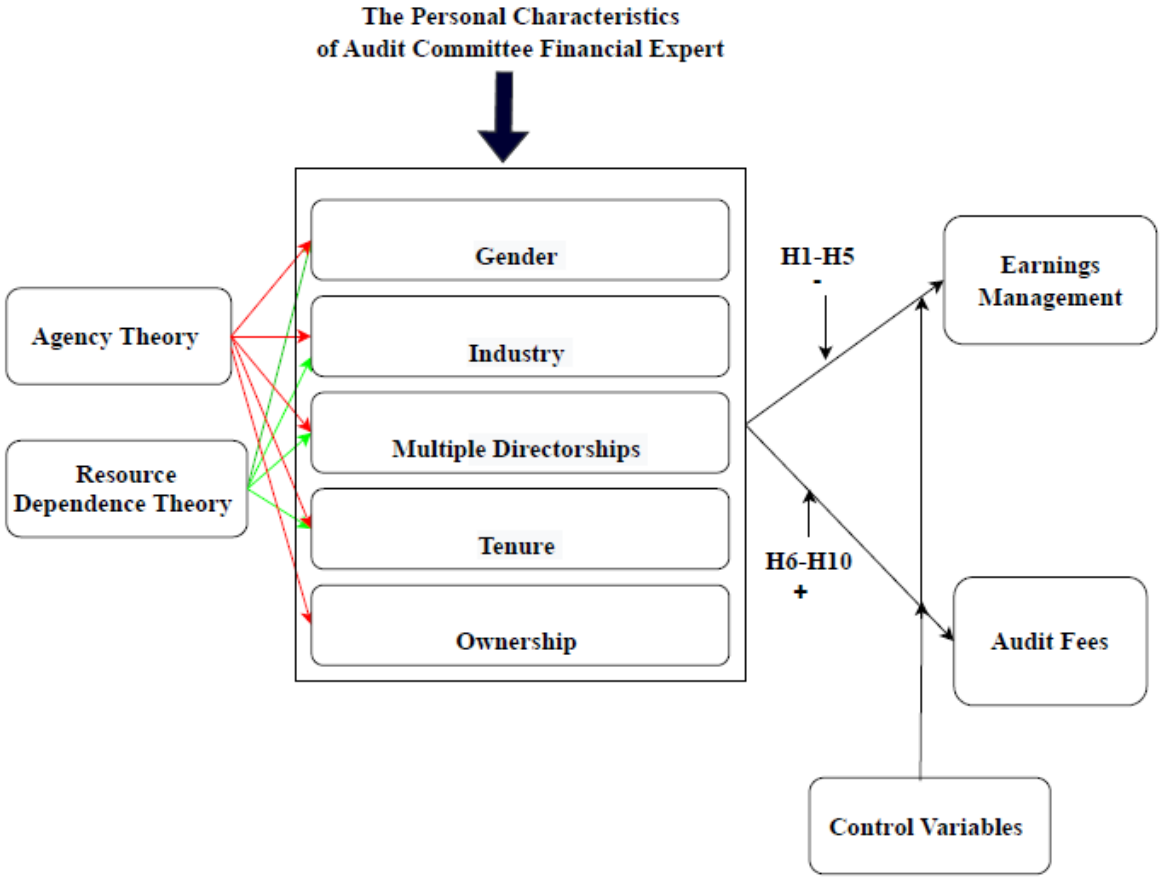

Figure 3.1 The Conceptual Schema of the Study

[31] It should be noted that the omission of a green arrow between resource dependence theory and share ownership is deliberate. A comprehensive review of the existing literature found no documented evidence supporting a direct relationship between resource dependence theory and either audit committee ownership or financial expertise ownership within the committee. Hence, this study does not explore ownership in the context of resource dependence theory.

3.4. Hypotheses Development

As previously noted, the audit committee financial expert characteristics examined in this study (gender, industry expertise, multiple directorships, tenure, and share ownership) were selected because they are frequently cited in the empirical literature as having a significant influence on earnings management and audit fees (Abbott, Parker & Peters 2004; Bédard, Chtourou & Courteau 2004; Davidson, Goodwin-Stewart & Kent 2005; Dhaliwal, Naiker & Navissi 2010; Ghafran & O'Sullivan 2017; Goodwin-Stewart & Kent 2006; Rainsbury, Bradbury & Cahan 2009; Sultana 2015).

While the established relationship between audit quality and financial reporting quality is widely recognised (Alzoubi 2014), it is imperative to emphasise that this study's core focus centres on the attributes of financial experts and their influence on both audit quality and financial reporting quality. To illustrate this focus, consider the work of Krishnamoorthy et al. (2023), who also examined the influence of having a chair accounting expert on both audit quality and financial reporting quality. Furthermore, this study bears similarities to the research conducted by Cohen et al. (2014), which investigated the effects of accounting experts with industry experience on the quality of financial statements and audit practices.

Acknowledging the interwoven relationship between audit quality and financial reporting quality, this research introduces a novel dimension by examining how these characteristics simultaneously shape both dimensions. The use of signed hypotheses in this study serves as a structured framework that allows for a precise examination of the expected directional effects. This aids in the formulation of precise predictions despite the complexities and contradictions observed in the empirical results. The following sub-sections explain the hypotheses that were developed for each characteristic and their relationship with financial reporting quality and audit quality.

3.4.1. The Personal Characteristics of Audit Committee Financial Experts and Financial Reporting Quality

3.4.1.1. Gender Diversity

A substantial and increasing amount of literature has focused on examining the benefits of gender diversity in terms of corporate governance and financial reporting quality. Adams (2016) argued that, previously, it was the age of independent directors, but today, it is the age of female directors. Thiruvadi and Huang (2011) suggested that gender diversity can lead to improved decision-making due to a wider range of

perspectives and experiences. Female directors, as highlighted by Al-Musali Mahfoudh et al. (2019), and Bryce, Ali and Mather (2015), are often associated with a heightened concern for transparency, quality information disclosure, and rigorous oversight of management procedures. Huse and Solberg (2006) argue that female directors may demonstrate a greater commitment to the organisation's interests and be less self-centred than their male counterparts. Adams and Ferreira (2009) suggest that these differences can influence board governance processes and effectiveness, leading to a more comprehensive oversight role. Moreover, Colaco, Myers and Nitkin (2011) underscored the active role played by women in governance activities, contributing to more self-reliant oversight and higher-quality decision-making. Mallin and Michelon (2011) emphasised that increased female board involvement can improve governance by considering the interests of diverse stakeholders and enhancing the board's monitoring function.

Prior literature has shown that men and women have different attitudes toward management manipulation and accounting choices (Gavious, Segev & Yosef 2012; Gul, Srinidhi & Ng 2011; Thiruvadi & Huang 2011; Zalata, Tauringana & Tingbani 2018). Having women on company boards and subcommittees has resulted in increases in corporate governance effectiveness and enhanced business financial performance (Chijoke-Mgbame, Boateng & Mgbame 2020). The literature has documented that female directors on boards increase conservatism and the monitoring of management (Waweru & Riro 2013) and lower the likelihood of financial restatements (Oradi & Izadi 2020).

Krishnan and Parsons (2008), Adams and Ferreira (2009) and Al-Musali Mahfoudh et al. (2019) argued that female directors are independent decision-makers because they are highly sensitive to reputational loss and the risk of lawsuits. Furthermore, they do not belong to 'old-boy networks' and this facilitates a better oversight of managers' actions. In the same vein, Gull et al. (2018) suggested that the presence of females on audit committees results in low earnings management, while Al-Musali Mahfoudh et al. (2019) argued that the results are more pronounced when female directors occupy positions on a company's audit committee. Kyaw, Olugbode and Petracci (2015) argued that board gender diversity only constrains earnings management in countries where high gender equality exists. Consistent with this argument, Belaounia, Tao and Zhao (2020) conducted a multi-country analysis involving 24 countries and found that the presence of female directors in nations with greater gender equality was significantly related to the effectiveness of the board in terms of constraining earnings management. By contrast, female directors in countries with less gender equality did not seem to have any impact

on board effectiveness. Khlif and Achek (2017) noted that the advantages of having women on boards and subcommittees may vary from one country to another, depending on the legal, institutional, and cultural characteristics of the country and the level of gender equality within it.

Female independent directors possess financial expert knowledge, and the presence of females on audit committees was found to be associated with fewer financial restatements and high-quality auditors (Oradi & Izadi 2020). Zalata, Tauringana and Tingbani (2018) also argued that female financial accounting experts increased audit committee effectiveness and constrained earnings management. Their study discovered no impact of the ratio of male financial experts on earnings management. However, some scholars have found that the presence of female directors on audit committees can be associated with poor earnings quality (Jalan, Badrinath & Al-Gamrh 2020), and more errors and less accuracy in earnings forecasts (Ammer & Ahmad-Zaluki 2017). Based on a sample of major US corporations, Carter et al. (2010) did not find a significant correlation between the gender or ethnic diversity of the board, or important board committees, and financial performance. Sun, Liu and Lan (2011) claimed there are no significant differences in ethical beliefs toward earnings management between male and female audit committee directors. They found no evidence for the effect of female representation on audit committees and earnings management. Similarly, Jansen, Ramnath and Yohn (2012) found no significant relationship between the presence of female directors on audit committees and accruals. To formally test the general proposition, the following hypothesis was posited:

> **H1.** There is a negative association between the ratio of female financial experts on an audit committee and financial reporting quality.

3.4.1.2. Industry Experience

Industry expertise refers to knowledge gained from previous experience with similar business operations, accounting, financial systems, transactions, and technology. Regulators, policymakers, and academic researchers have paid attention to the importance of having industry experts on audit committees. Directors' industry expertise was highlighted in discussions on corporate governance during the 2008–2009 financial crisis (Alhababsah & Yekini 2021). As an example, Citigroup's lack of investment and finance expertise contributed to its enormous write-downs of mortgage-related assets (Wang, Xie & Zhu 2015).

Olson (1999) stated that audit committee members with managerial experience are more effective than those with an accounting or financial background. Based on the agency theory proposition (Jensen & Meckling 1976), it has been argued that industry knowledge provides directors with a better understanding of the company's operations and financial conditions, allows them to better analyse relevant information, and, therefore, to provide a better monitoring role (Wang, Xie & Zhu 2015). Furthermore, since financial statements usually contain many estimates, industry expertise may be helpful to the audit committee in understanding and evaluating industry-specific estimates (Cohen et al. 2014). The warranty obligations of a product are dependent on the industry and its specifications. Therefore, industry expertise is imperative to ensure accuracy of warranty estimates. Similarly, in pharmaceuticals, testing revenue reserves in the US is more complex because Medicaid reimbursement rates must be examined now and in the future. So, an audit committee that includes an industry expert can better comprehend an industry's complexities and will be able to communicate more effectively with the auditor (Cohen et al. 2014). An audit committee member should be expected to perform better at monitoring the financial reporting process if they have more experience in the industry (Petri & Soublin 2010).

Faleye, Hoitash and Hoitash (2018) found that firms are difficult for non-experts to monitor and, as a consequence, they are more likely to appoint industry experts to their boards. The researchers argued that board industry expertise reduces R&D-based real earnings management and increases R&D investment. Cohen et al. (2014) discovered that a combination of both financial and industry experts is more effective in reducing financial restatements and earnings manipulation than committees with only financial experts. Their study argued that audit committee financial experts with industry knowledge can provide more effective oversight of the financial reporting process, leading to more accurate and reliable financial statements. As result, management may have difficulty engaging in earnings management activities, such as artificially inflating earnings reports through accounting techniques. In the same vein, Wang, Xie and Zhu (2015) reported that industry experience on audit committees discourages two things: earnings management and the probability of financial fraud. Based on the above discussion and previous empirical evidence, the following hypothesis was developed:

H2. There is a negative relationship between the ratio of audit committee financial experts with industry experience and financial reporting quality.

3.4.1.3. Multiple Directorships

The multiple directorships of audit committee members are considered to be valuable and important because members gain additional knowledge and develop more experience. This helps them to advise on and oversee management decisions effectively, thus improving the quality of financial reporting. Past research has documented that external directors with multiple directorships tend to maintain their reputation by monitoring financial reporting quality and improving business performance (Ahn, Jiraporn & Kim 2010; Khoo, Lim & Monroe 2020; Knechel, Sharma & Sharma 2012; Sharma & Kuang 2014; Tham et al. 2019; Yang & Krishnan 2005). Independent board members serving on different committees were found to be associated with less aggressive earnings management (Sharma & Kuang 2014). Carcello and Neal (2003) and Yang and Krishnan (2005) observed that audit committee members who hold multiple directorships tend to be more effective at monitoring management actions. Based on the 'reputation incentives' view, audit committee members with multiple directorships are more motivated to oversee financial reporting matters and ensure that internal controls function well (Khoo, Lim & Monroe 2020).

In contrast, studies based on the 'impairment view' have argued that holding multiple directorships leads to overcommitment, which can undermine or weaken the monitoring role of committee members (Aldamen et al. 2012; Knechel, Sharma & Sharma 2012; Tanyi & Smith 2015). Aldamen et al. (2012) claimed that audit committee members with multiple directorships tend to be overstretched and do not fulfil their duties effectively. Consistent with this argument, audit committee members who hold multiple directorships were found to be associated with high financial restatements (Knechel, Sharma & Sharma 2012). Ahn, Jiraporn and Kim (2010) argued that the cost of multiple directorships has to be weighed against the benefit when the level of the busyness of directors exceeds a certain point. They found that a high number of multi-directorships of external directors leads to value-destroying mergers and acquisitions. However, some researchers have contended that the adverse effects of multiple directorships do not extend to all the members of audit committees. For example, Tanyi and Smith (2015) observed that firms with audit committee chairs and financial experts who are too busy report higher levels of abnormal accruals and tend to meet or beat earnings benchmarks. In line with this study, Carrera, Sohail and Carmona (2017) argued that policymakers should limit the number of directorships held by financial expert. Based on the reputation incentives view discussed above and previous empirical evidence, the following

hypothesis was developed:

H3. There is a negative relationship between audit committee financial experts who hold multiple directorships and financial reporting quality.

3.4.1.4. Tenure

Tenure refers to the period of time that a director has been serving on a company's board. Committee members with long tenure are expected to possess higher levels of knowledge and experience. A number of studies have demonstrated that the tenure of board directors is positively correlated with their effectiveness in managing earnings (Bédard, Chtourou & Courteau 2004; Yang & Krishnan 2005), accruals quality (Dhaliwal, Naiker & Navissi 2010) and accounting conservatism (Sultana 2015). Liu and Sun (2010) believed that longer audit committee service allows directors to gain more firm-specific knowledge and better equips them to deal with complicated committee proceedings, resulting in improved performance in protecting shareholder rights. Yang and Krishnan (2005) discovered that long tenure on an audit committee is associated with low earnings management. As a result of accumulating firm-specific skills and procedural knowledge, audit committee members with longer tenure are better informed about the firm's internal and external environments, financial reporting and risk management processes, and internal control systems, and can challenge management when necessary (Sharma & Iselin 2012). Dou, Sahgal and Zhang (2015) stated that in firms with a higher proportion of long-tenured directors, CEO compensation is lower, CEO turnover is more sensitive to performance, and intentional earnings misreporting is less likely. As Gray and Nowland (2013) demonstrated with Australian data, shareholders value a director's prior experience at the time of appointment.

On the other hand, short tenure on an audit committee was found to be associated with high firm performance, but only when the audit committee chair and the audit committee members have the requisite financial experience or accounting qualifications (Aldamen et al. 2012). In agreement, Dhaliwal, Naiker and Navissi (2010) asserted that audit committee financial experts with lower tenure in their firms have a profound positive impact on accruals quality. However, Karamanou and Vafeas (2005) found a positive relationship between average audit committee tenure and poor quality, and their study concluded that long tenure results in lower financial reporting quality. During the tenure of an audit committee member, friendships can develop and strengthen between those on the committee and management, which may diminish independence. According to Sharma and Iselin (2012) findings, audit committee directors with longer tenure lack the

ability to exercise independent judgement in the post-SOX environment. In contrast, Sun, Lan and Liu (2014) and Garven (2015) found no relationship between tenure and earnings management. Based on the above discussion, the following hypothesis was developed:

H4. There is a negative relationship between audit committee financial experts' tenure and financial reporting quality.

3.4.1.5. Stock Ownership

Several studies have examined the relationship between audit committee ownership and earnings management. Previous literature on audit committee members' ownership can be divided into two types: 'incentive-alignment' and 'impairment of independence'. In the incentive-alignment view, it can be argued through agency theory that significant share ownership makes audit committee members more likely to act in shareholders' interests due to the alignment of interests (DeZoort et al. 2002; Ghosh, Marra & Moon 2010). Ownership stakes in a firm can reduce agency problems since directors are also shareholders (Vafeas 2003). Directors with equity in the firm may be able to perform their duties better after 'watching agents' directly (Sun & Bhuiyan 2020). Researchers have documented that audit committees with members who have a high level of ownership are associated with high firm performance (Bolton 2014), high earnings quality (Karamanou & Vafeas 2005) and are more effective (Al-Musali Mahfoudh et al. 2019). Engel, Hayes and Wang (2010) found that higher compensation payments for audit committee members increase the demand for better auditing. Dhaliwal, Naiker and Navissi (2010) reported that high levels of stock owned by accounting experts on the audit committee are linked to high accruals quality.

The impairment of independence view, by contrast, argues that stock owned by an audit committee member may weaken independence. Consistent with this view, some researchers have documented that audit committee ownership increases the likelihood of financial restatement, the risk of aggressive earnings management, and internal control weakness (Archambeault, Dezoort & Hermanson 2008; Cullinan, Du & Jiang 2010; Knechel, Sharma & Sharma 2012; Sharma & Kuang 2014; Yang & Krishnan 2005). However, Garven (2015) and Ghosh, Marra and Moon (2010), found audit committee share ownership is not associated with earnings management. Based on the above findings and considering agency theory, this study developed the following hypothesis:

H5. There is a negative relationship between audit committee financial experts' ownership and financial reporting quality.

3.4.2. The Personal Characteristics of Audit Committee Financial Experts and Audit Quality

3.4.2.1. Gender Diversity

The influence of gender diverse corporate boards on audit quality has become a focal point of governance discussions in the literature, drawing considerable attention and emerging as a significant aspect of governance routines (Snaebjornsson & Edvardsson 2013). Research indicates that women serving on boards tend to exhibit qualities such as truthfulness, caution, and conservatism, which, in turn, reduce the likelihood of financial statement manipulation (Abbasi, Alam & Bhuiyan 2020; Nehme & Jizi 2018). Nehme and Jizi (2018) suggested that a higher representation of female directors on boards can decrease the workload of external auditors, leading to reduced audit fees. Female directors often enhance the monitoring function of audit committees and demand higher-quality auditing work. Their presence is associated with more effective oversight of management, ultimately enhancing audit quality, as they are less inclined to tolerate opportunistic behaviour (Al-Musali Mahfoudh et al. 2019; Zalata, Tauringana & Tingbani 2018). Studies also suggest that female directors on audit committees are more likely to influence audit opinions and increase audit fees (Lai et al. 2017; Pucheta-Martínez, Bel-Oms & Olcina-Sempere 2016). Harjoto, Laksmana and Lee (2015) found that audit committees chaired by women tend to have lower audit fees, supporting the supply-side argument.

Women's risk aversion significantly contributes to a reduction in false or misleading financial reporting (Lenard et al. 2017). Companies displaying a strong commitment to ethical rules and processes are less likely to be involved in litigation or engage in false financial reporting. Xiang and Qin (2017) suggested that female audit committee directors have academic and professional backgrounds that are associated with a demand for better auditing. Accordingly, the presence of female audit committee directors is negatively associated with financial fraud. The positive relationship between female directors on audit committees and audit fees could be due to increased monitoring by female directors (Abbasi, Alam & Bhuiyan 2020; Aldamen, Hollindale & Ziegelmayer 2018; Lai et al. 2017), whereas the negative relationship between female directors on audit committees and audit fees could be due to limited communication and increased conflicts. This may be explained by the presence of a diversity of members on audit committees (Ittonen, Miettinen & Vähämaa 2010).

However, prior research on the relationship between gender diversity on audit committees and audit quality presents mixed findings. One strand of research found that

the presence of one or more female directors within an audit committee or serving as chair enhances the monitoring activities of the audit committee, thus lowering audit fees (Ittonen, Miettinen & Vähämaa 2010; Nekhili et al. 2019). Another line of literature found that the rise in the number of females on audit committees raises audit fees (Aldamen, Hollindale & Ziegelmayer 2018; Sellami & Cherif 2020; Zalata, Tauringana & Tingbani 2018). These scholars suggested that female directors are more conservative, which leads to demands for better quality auditing. Consistent with this, Abbasi, Alam and Bhuiyan (2020) found that female financial accounting experts on audit committees are associated with high audit fees, while male accounting experts had no impact on audit fees.

In contrast, Bhuiyan, Rahman and Sultana (2020) argued that an increase in audit fees is associated with having female directors on boards or audit committees. However, Alhababsah and Yekini (2021) failed to find any relationship between the percentage of females on audit committee and audit fees. Their study found that real earnings management activities tended to be higher when businesses had audit committees with female directors serving as financial experts. Consistent with the argument that female financial experts improve audit quality, the following hypothesis was developed:

H6. There is a positive association between the ratio of female financial experts on an audit committee and audit quality.

3.4.2.2. Industry Experience

Potentially, industry-skilled audit committee financial experts may influence audit fees since they are more familiar with the specific accounting and financial issues facing the company and may be able to negotiate more favourable audit fees. Consistent with this view, Alhababsah and Yekini (2021) examined the impact of audit committee industry expertise and legal expertise on audit fees and found only audit committees with industry-experienced members were associated with high audit quality. Audit committee financial and industry expertise has been found to connect with highly readable key audit matters (Velte 2019) and result in auditors reporting fewer key audit matters (Zhang & Shailer 2022). In the same vein, Cohen et al. (2014) asserted that audit committees with industry experts and accounting expertise can be more effective at overseeing the financial reporting process. This, in turn, can lead to a higher quality audit.

However, there is an argument that audit committee industry expertise suggests audit committee members have similar management experience. According to Alhababsah and Yekini (2021), this could result in weak monitoring and more adverse

management behaviour because directors understand and are sympathetic to the managers' challenges and difficulties. Prior experience in a firm's industry may also reduce the degree of effective separation between management and directors, as they may share common friends and acquaintances within the industry, belong to the same social circles for work-related reasons (e.g., industry conventions or trade shows), or cross paths in their careers (Alhababsah & Yekini 2021). This is only the case in small communities where people have strong social relationships. Considering the theoretical evidence discussed above, the following hypothesis was developed:

H7. There is a positive relationship between the ratio of audit committee financial experts with industry experience and audit quality.

3.4.2.3. Multiple Directorships

Past research has documented different kinds of evidence regarding the relationship between multiple committee directorships and audit fees. One view of audit committees with multiple directorships is that members cannot monitor management diligently. According to Carpenter and Westphal (2001), such busy independent directors might provide less effective monitoring of management because they are stretched by information overload. Karim, Robin and Suh (2016) found that audit fees are negatively correlated with committee overlap (multiple inside director seats). This is consistent with the claim that audit committees that hold multiple directorships are associated with weak corporate governance, and audit committees are less likely to conduct monitoring in a weak governance environment. As noted in Chapter Two, in the US, the National Association of Corporate Directors and the Center for Board Leadership (2000) called for a limit on board seats to three for full-time directors and six for retired directors. In the post-SOX 2002 and ASX Corporate Governance Council 2003 environment, audit committee members are expected to have greater responsibilities for internal and external audits, which has increased the workload on directors. Due to this, holding too many directorships can damage the monitoring responsibilities in such roles (Beasley 1996; Lipton & Lorsch 1992).

Other views have asserted that audit committee members with multiple board seats are more diligent in performing their duties and asking more probing questions of management so that financial statements are not materially misrepresented (Sultana, Singh & Rahman 2019). Connelly and Van Slyke (2012) stated that an individual with multiple board interlocks can have a positive impact on the firm they govern. Directors who hold multiple outside directorships, for example, contribute to the establishment of

legitimacy with external stakeholders and send a positive signal to investors (Connelly & Van Slyke 2012). Harris and Shimizu (2004) argued that busy directors become more efficient decision-makers when they observe patterns and problems in other companies. In the Australian context, Sultana, Singh and Rahman (2019) reported that audit committee directorships are positively associated with high audit fees. Their study suggested that audit committee members gain skills and experience from other boards, which motivates them to seek greater assurances and demand more in terms of their audit efforts. In line with the notion that a director's number of directorships might serve as a proxy for reputational capital (Fama & Jensen 1983), Lai et al. (2017) found that directors who hold multiple board seats require increased audit assurance and additional audit effort, resulting in higher audit fees. In contrast with the two previous points view, Abbott et al. (2003a) and Chan, Liu and Sun (2013) contended that audit committee members with an average number of directorships do not influence audit fees. Based on the previous research, the following hypothesis was developed:

H8. There is a positive relationship between audit committee financial experts who hold multiple directorships and audit quality.

3.4.2.4. Tenure

Another important factor in determining the effectiveness of audit committees in performing their monitoring role is the tenure of their financial experts. Previous research has taken different paths to explain the relationship between audit committee director's tenure and the magnitude of audit fees. Using Australian data, Sultana, Singh and Rahman (2019) found that tenure, age, and multiple directorships are all positively associated with audit fees. They argued that audit committee members with longer tenure seek additional assurances from the auditor to minimise litigation risks. However, using US data, Chan, Liu and Sun (2013) documented a negative relationship between the proportion of independent audit committee members serving longer on the board and audit fees. They argued that firms with long-tenured audit committee members pay lower audit fees because they have greater expertise, reputations, commitment, and willingness to perform better monitoring functions.

However, there is an argument that long tenure may impair audit committee independence because a close relationship with management may develop (Dou, Sahgal & Zhang 2015; Sultana, Singh & Rahman 2019). Another study agreed with this point and indicated that audit committee members with longer tenure may not exercise enough independent judgement (Sharma & Kuang 2014). The UK Financial Reporting Council

does not consider a director who has served on a board for more than nine years to be independent. This implies that directors will become entrenched in their management roles after a period of time and will, therefore, not be able to adequately fulfil their monitoring role (Dou, Sahgal & Zhang 2015). In the US, the National Association of Corporate Directors (NACD) recommended that tenure limits be set to between ten and fifteen years when no evaluation procedures are in place (NACD, 2005). While audit committees in Australia do not place specific tenure limits on members, it is generally accepted that they should not serve for an extended period. The Australian Institute of Company Directors (AICD) recommends a maximum tenure of nine years, and the ASX Corporate Governance Council recommends rotating at least one third of the board annually. Considering the recent findings in the Australian context, this study proposed the following hypothesis:

H9. There is a positive relationship between audit committee financial experts' tenure and audit quality.

3.4.2.5. Stock Ownership

Several studies have examined the impact of audit committee members' ownership of shares on financial report monitoring. Previous research has developed according to two different perspectives on the relationship between audit committee ownership and audit quality. According to the first perspective, ownership could compromise audit committee independence, encouraging members to collude with managers to boost stock prices through opportunistic reporting. Consistent with this view, Carcello and Neal (2003) asserted that audit committee members were more likely to dismiss an external auditor following the release of a going concern report where their share ownership was high. A recent study by Bhuiyan and Mabel (2020) found that audit committee ownership increases audit report lag. The relationship between audit committee ownership and audit report lag is mediated by financial reporting quality and modified audit opinions provided by external auditors. However, this study found no relationship between audit committee financial experts' ownership and audit report lag. In the same vein, Liu, Lobo and Yu (2021) found that audit committee equity compensation has a stronger negative effect on audit fees when city-level competition is high. This negative relationship disappears, however, when firms face high litigation risk, auditors have stronger bargaining power, the audit committee includes a high proportion of accounting experts, and auditors are industry experts.

According to the second perspective, audit committee share ownership is associated

with the effectiveness of financial reporting. Ownership may motivate audit committee members to be vigilant monitors if they are compensated with shares. In accordance with alignment theory, larger equity compensation is likely to align the interests of audit committee members with shareholders' interests, resulting in more effective audit committees (Fama & Jensen 1983; Jensen & Meckling 1976; Lambert, Leuz & Verrecchia 2007; Monks & Minow 2011). A study by Beasley (1996) found that the likelihood of fraud decreases as the stock ownership of outside directors (not necessarily audit committee directors) increases. As a result of more audit committee ownership, companies with more complex financial reporting require more auditing expertise and resources. Furthermore, audit committees with higher ownership demand more services from the auditor, such as consulting on internal controls or assurance, resulting in higher audit fees (Engel, Hayes & Wang 2010). The following hypothesis emerged from the competing arguments:

> **H10.** There is a positive relationship between the audit committee financial experts' ownership and audit quality.

3.5. Chapter Summary

The major theoretical perspectives serving as the basis of this research were identified and explained in this chapter. A review and comparison of five theories that have sought to explain how corporations are governed were also examined (i.e., agency theory, resource dependence theory, institutional theory, stewardship theory, and stakeholder theory). A conceptual diagram illustrating the relationship between audit committee financial experts, earnings management and audit fees was also provided. Finally, the empirical literature on each characteristic of audit committee financial experts was reviewed, leading to the formation of a set of testable hypotheses. The research method used in this study is described in Chapter Four, which covers the statistical tests and models employed to test the hypotheses. The sample, documentation, and time period are all described , as well as the measurement used to operationalise earnings management and audit quality (the dependent variable), the personal characteristics of audit committee financial experts (the independent variables), and control factors.

Chapter Four: Research Method

4.1. Chapter Overview

In Chapter Three the theoretical framework for corporate governance was explained, as well as the five main theories underlying it. This chapter describes the methods used to test the hypotheses devised for this study. The chapter begins with a justification of the sample chosen, as well as the source documentation and the time period analysed. The measures used in this study for the personal characteristics of audit committee financial experts are then discussed. The chapter then explains how the study's dependent variables, financial reporting quality and audit quality, were measured. Following an explanation of the statistical tests and regression models used to evaluate the hypotheses, selected alternative tests are discussed. The chapter ends with a summary of what has been covered in the chapter.

4.2. Documentation and Time Period

The following sub-sections explain the sources of documented data used in this study and the time period selected for analysis.

4.2.1. Source Documentation or Data Collection

This study used two sources for collecting the data. First, company annual reports were used to collect the biographical data of audit committee financial industry experts. In line with previous research, this study considered financial experts to be industry experts when the financial expert worked in the same sector (based on global industry classification standard [GICS] codes), with experience in at least one firm in their employment history for at least five years (Wang, Xie & Zhu 2015). The third edition of the Australian Securities Exchange (ASX) Corporate Governance Council 2014 (2014) advised that all the skills and expertise of ASX-listed companies' boards of directors should be disclosed. As a result of this disclosure, it is possible to track the history of every director and determine whether or not they possess industry expertise. Industry information was gathered for both public and private sector companies in which a financial expert worked. Data on the personal characteristics of audit committee financial experts and other corporate governance characteristics were hand-collected from the governance sections of annual reports from 2016 to 2020. The other source of data used was from DataStream, which allowed for the collection of information on discretionary accruals, audit fees and control variables.

4.2.2. Time Period Selection

This study did not examine any specific event; it examined the magnitude rather than the direction of earnings management Consequently, the absolute value of discretionary accruals functioned as the dependent variable when testing the hypotheses of the study. In addition to the magnitude of earnings management, this study investigated the quality of audit through the audit fee paid to the external auditor. Covering a period of five years (2016 to 2020) increased the number of firms in the sample, which strengthened the results of the tests. Previous studies have used the cross-sectional version of the modified Jones model for less than 10 years of data (e.g.Alzoubi 2014; Alzoubi 2016; Bradbury, Mak & Tan 2006; Davidson, Goodwin-Stewart & Kent 2005; Jansen, Ramnath & Yohn 2012; Tanyi & Smith 2015; Tham et al. 2019).

A number of studies have been conducted in Australia with a focus on earnings equality and earnings management, assessing the nature of various relationships. However, not one study has yet comprehensively investigated the relationship between the personal characteristics of audit committee financial experts and earnings management in this country. The growing number of multinational or international enterprises in Australia, as well as the sharing of board of directors' skills and knowledge across countries, states, and continents, speaks volumes about why Australia was chosen for analysis in this research.

4.3. Measures of Audit Committee Financial Experts' Personal Characteristics

This study adopted the broad definition provided by the SEC for types of financial experts.[32] In addition, this study aligns with Carrera, Sohail and Carmona (2017) and Zalata, Tauringana and Tingbani (2018) in not segregating the type of financial experts. Different measures of audit committee financial expert personal characteristics were employed, drawn from the large body of research (Abbasi, Alam & Bhuiyan 2020; Bhuiyan & Mabel 2020; Carrera, Sohail & Carmona 2017; Dhaliwal, Naiker & Navissi 2010; Tham et al. 2019; Wang, Xie & Zhu 2015; Zalata, Tauringana & Tingbani 2018). Definitions for each independent variable, along with the dependent and control variables,

[32] The SEC defines accounting experts as audit committee members who have worked as CPAs, chief financial officers, vice-presidents of finance, financial controllers, or any other major accounting position, as stipulated in other research (Defond, Hann & Hu 2005; Krishnan & Parsons 2008). Finance experts are considered the first category of non-accounting financial experts, and are audit committee members who have worked as investment bankers, financial analysts, or in any other financial management position. Finally, supervisory experts, the second category of non-accounting financial professionals, are audit committee members with experience as CEOs or business presidents.

are shown in Table 4.1. The following section discusses how the personal characteristics of financial experts (the independent variables) were measured.

Table 4.1 Definitions of Dependent and Independent Variables

Types of variables	Variable name	Variable label	Measurement
Dependent variables	**Discretionary accrual**	*MJM*	Absolute value of discretionary accrual estimated from modified Jones model calculated in equation (2).
	Audit fee	*Audit_Fee*	Natural logarithm of audit fees.
Independent variables	**Financial expert gender**	*FEXP_Female%*	The proportion of female financial expert directors to the total number of audit committee members.
	Financial expert industry	*FEXP_Industry%*	The proportion of financial expert directors with industry skills to the total number of audit committee members.
	Financial expert multiple directorships	*FEXP_Multi%*	Average of outside directorships held by accounting expert members.
	Financial expert tenure	*FEXP_Tenure%*	The average number of years for accounting expertise on the audit committee.
	Financial expert shares	*FEXP_Share%*	Ratio of shareholdings owned by accounting experts on the audit committee in a firm (total number of shareholdings owned by accounting experts divided by the total number of outstanding shares).

4.3.1. Female Financial Experts on Audit Committees

According to recent research, audit committee female financial experts have a more pronounced influence on earnings management and audit quality than their male counterparts (Abbasi, Alam & Bhuiyan 2020; Abbott, Parker & Peters 2004; Agrawal & Chadha 2005; Bédard, Chtourou & Courteau 2004; Zalata, Tauringana & Tingbani 2018). Therefore, this current study expected that the proportion of audit committee female financial experts would have a significant influence on earnings management and audit quality. This study included firms that appointed female financial experts (*FEXP_Female%*) on their audit committees.

4.3.2. Audit Committee Financial and Industry Expertise

This study follows the work of Wang, Xie and Zhu (2015), taking the view that audit committee financial expertise refers to industry experts who have had prior managerial experience. Since lower-level roles (e.g., rank-and-file employees, trainees) are unlikely to provide an individual with appropriate opportunities to gain sufficient knowledge and understanding about a firm and its industry, this research focused on previous director and executive-level positions. These positions include director, CEO, CFO, chief operating officer (COO), chairman, president, vice-president, manager, chief officer, owner, division CEO, division chairman, division CFO, division COO, division president, division vice-president, head of division, regional CEO, regional CFO, regional president, and regional vice-president. Directors who held one of these positions for at least five years were considered industry experts. Audit committee financial experts with industry experience (*FEXP_Industry%*) were coded as having industry expertise or, alternatively, classified as if they had previously held a directorship or executive position at another firm in the same (GICS) industry sector as the firm on whose board they sat.

4.3.3. Audit Committee Financial Experts' Multi-directorships

The measurement of audit committee financial experts' multi-directorships in this study is consistent with the approach taken in previous research studies (Ghafran, O'Sullivan & Yasmin 2022; Knechel, Sharma & Sharma 2012; Tanyi & Smith 2015; Tham et al. 2019). The research on multiple directorships indicates that directors with significant outside directorships have the necessary abilities, experience, skills, and knowledge to fulfil their duties (Fama 1980). A director's reputation and status are

enhanced by having multiple board seats and being seen as an expert in monitoring. Most researchers use the average number of directorships held by board members to assess the extent of their multiple directorships (Ferris, Jagannathan & Pritchard 2003; Field, Lowry & Mkrtchyan 2013; Jiraporn, Singh & Lee 2009). To compute this measure, all financial experts' directorships were added together and divided by the number of financial experts at the end of the financial year. The study measured directorships as the average number of seats held (*FEXP_Multi%)* outside of the firms during the study period.

4.3.4. Tenure of Audit Committee Financial Experts

Although there is no specific timeframe for financial expert tenure, this study analysed the average tenure for financial experts *(FEXP_Tenure%),* in line with the literature on audit committee tenure (Carcello & Nagy 2004; Frankel, Johnson & Nelson 2002; Knechel, Sharma & Sharma 2012; Stanley & DeZoort 2007). The average number of years that financial experts had served on the audit committee were measured. This was calculated by dividing the sum of years that all accounting and non-accounting members had served on the audit committee by the number of financial experts on the audit committee.

4.3.5. Audit Committee Financial Experts' Stock Ownership

The ratio of shares was used as a measure for audit committee financial experts' ownership. High ownership levels among members of audit committees is associated with high firm performance (Bolton 2014), high earnings quality (Karamanou & Vafeas 2005), and more effective audit committees (Al-Musali Mahfoudh et al. 2019). Increasing compensation payments for audit committee members increases the demand for better auditing, according to Engel, Hayes and Wang (2010). In a study by Dhaliwal, Naiker and Navissi (2010), high and low levels of stock owned by accountants on audit committees were associated with high accruals quality. Following the method used by Bhuiyan and Mabel (2020), the ratio of ownership was calculated as the total number of shareholdings owned by audit committee financial experts (*FEXP_Share%)* divided by the total number of outstanding shares.

4.4. Measurements of Financial Reporting Quality

Earnings management was used as a proxy for financial reporting quality and was measured using discretionary aggregate/total accruals (see Chapter Two for more discussion on the determinants of earnings management). In the academic literature, many models were devised to capture the level of earnings management (DeAngelo 1986;

Dechow & Dichev 2002; Dechow, Sloan & Sweeney 1995; Healy 1985; Jones 1991; Ronen & Yaari 2008). This study used two models to measure the level of earnings management. The primary method employed for the main analysis is the widely recognised and influential modified Jones model by Dechow, Sloan and Sweeney (1995). This model is acknowledged for its robustness and has been utilised in numerous studies across diverse economies. These studies have confirmed its validity and accuracy (Abbasi, Alam & Bhuiyan 2020; Bratten, Causholli & Omer 2019; Ghafran 2013). The second method, employed as an alternative test, is the performance-matched model developed by Kothari, Leone and Wasley (2005). The rationale for employing the model as an alternative test for robustness, in conjunction with the Dechow, Sloan and Sweeney (1995) model, is that it aligns with the approach taken in previous studies (Tham et al. 2019). The following sub-sections discuss both models of earnings management.

4.4.1. The Modified Jones Model of Dechow, Sloan and Sweeney (1995)

This study used the cross-sectional version of the modified Jones model because it is recommended as the most powerful model for estimating accruals and has been widely used in recent corporate governance research (Alzoubi 2018; Bajra & Čadež 2018; Ghafran & O'Sullivan 2017; Tham et al. 2019). The modified Jones model was used to calculate the total accruals of the firm in each estimated year-industry (Dechow, Sloan & Sweeney 1995). In estimating normal accruals, the first stage is similar to the Jones model. The following model equation was used to calculate the total accruals:

$$TACC_{it} = \beta_1 \left(\frac{1}{AT_{it-1}}\right) + \beta_2 \left(\frac{\Delta AR_{it}}{AT_{it-1}}\right) + \beta_3 \frac{PPE_{it}}{AT_{it-1}} + \varepsilon_{it} \quad \textbf{(1)}$$

As part of the second stage (the event period), normal accruals were calculated by multiplying the estimated coefficient of the change in sales by the change in cash sales (the change in revenues minus the change in receivables) rather than the change in sales itself. The coefficient ($\beta_1, \beta_2 and\ \beta_3$) in the previous equation determines the normal accruals (non-discretionary accruals), following the cross-sectional regression model:

$$NDA_{it} = \beta_1 \left(\frac{1}{AT_{it-1}}\right) + \beta_2 (\Delta REV_{it} - \Delta AR_{it}/AT_{it-1}) + \beta_3 PPE_{it}/AT_{it-1} + \varepsilon_{it} \quad \textbf{(2)}$$

Where: *TACC* = total accruals (net income less cash flow from operations) scaled by 1 year lagged total assets for company *i* during year *t*; (explained in the following

section); *NDA* = non-discretionary accruals; *AT* = average of total assets (beginning and ending asset balances) for company *i* at the end of year *t*−1; Δ*REV* = the difference in net revenues in year *t* from year *t*−1; Δ*AR* = the difference in net receivables in year *t* from year *t*−1; *PPE* = gross property, plant, and equipment for company *i* at year *t* and; ε_{it} = error term.

All variables were scaled by prior year total assets *At*-1 to control for heteroscedasticity (Waweru & Riro 2013). Referring to the second equation, the normal accruals or non-discretionary accruals were measured by subtracting the change in revenue from the change in net receivables. This was done to avoid any discretionary accruals in sales.

4.4.2. The Method Adopted for Calculating Discretionary Accruals

Discretionary accruals shown in equation (2) were determined by running separate regressions for each GICS industry group with six or more observations in a single financial period. In total, 45 independent cross-sectional regressions will be run for each model given the nine GICS industry groups and five financial years (2016, 2017, 2018, 2019, and 2020) covered by this study.

A pivotal step in determining discretionary accruals is to calculate total accruals. To predict total accruals, two approaches have been used in the research: the traditional balance sheet approach and the cash flow approach. However, this study used the cash flow statement approach advocated by Hribar and Collins (2002), for two reasons. First, the incidence and level of errors caused by using the balance sheet are much greater than when using the cash flow (Hribar & Collins 2002). Second, when companies acquire or merge, the cash flow method may be chosen because the error in the balance sheet approach of calculating discretionary accruals is connected with the company's economic features, reducing the model's strength to identify earnings management and its ability to create reliable earnings management inferences (Hribar & Collins 2002; Stubben 2010). The discretionary accruals are determined by subtracting the total accruals (*TACC*) from the non-discretionary accruals (*NDA*) (Equation [1]). The following regression model calculates the residual value of discretionary accruals:

$$\mathrm{DAC}_{it} = TAcc_{it}/AT_{it-1} - NDA_{it}/AT_{it-1} \quad \textbf{(3)}$$

As noted above, the model used the cash flow statement method to calculate the total accruals because it is more reliable than the balance sheet approach (Hribar &

Collins 2002). Total accruals (*TACC*) are determined by subtracting net income (*NI*) from operating cash flow (*OCF*) using the following equation:

$$TAcc_{it} = NI_{it} + OCF_{it} \quad (4)$$

The absolute value of discretionary accruals is the dependent variable used to formally test the presented hypotheses, given the focus on the magnitude rather than the direction of earnings management. The size of unsigned discretionary accruals is said to be a good indicator of how much accruals have been utilised to manage earnings in the absence of specific directional forecasts (Francis & Krishnan 1999). The absolute value of residuals from Equation (2) is the first measure of earnings management for the major tests, while the absolute value of residuals from Equation (3) is the second measure. The earnings management sample was then divided into firms with positive (income-increasing) discretionary accruals and those with negative (income-decreasing) discretionary accruals. Following that, the primary tests were repeated to find out if the personal characteristics of financial experts were associated with positive and negative discretionary accruals in different ways.[33]

4.5. Measurements of Audit Quality

According to Collier and Gregory (1996), the auditor's ability to detect errors is also contingent on their ability to choose the proper procedures and their scope. As a result, the auditor's independence from management may have an impact on the scope of what is being examined. Based on the discussions in the literature, this study used audit fees as a proxy for audit quality for two reasons. First, the variation in the level of the fees for each year makes it possible to capture the changes between years. Second, audit fees are expected to reflect the auditor's level of effort, which is considered to be an input to the audit process that is intuitively related to audit quality. It was determined by Aobdia (2019) that audit fees are one of the most appropriate audit quality indicators. The audit fees are transformed using natural logarithms (*Audit_Fee*) and are defined as the audit fees paid by a firm to its auditor over a time period (t) (Hay, Knechel & Wong 2006; O'Sullivan 2000). Higher audit fees are associated with better quality financial reporting, and they have a negative impact on discretionary accruals.

[33] An in-depth discussion of the trade-offs between signed and absolute discretionary accruals is provided by Lennox, Wu and Zhang (2014).

4.6. Measurements and Justification for Including Control Variables

This research used the same set of control variables for audit fee and earnings management to estimate the regression models (Cahan, Chen & Wang 2020). The definition of each control variable is provided in Table 4.2. The control variables used in the study are based on the recent analyses done in Australia on audit fees (Abbasi, Alam & Bhuiyan 2020; Aldamen, Hollindale & Ziegelmayer 2018) and earnings management (Tham et al. 2019). The audit fee and earnings management can be influenced by variables related to a client firm's attributes (such as firm size, leverage, firm performance, growth, operation cash flow and loss). These variables are deemed to be a client firm's attributes. These can directly influence the supply and demand of audit services because they are related to the level of the audit effort, and thus to earnings management (Cohen et al. 2014; DeFond & Zhang 2014). Also, corporate governance characteristics (such as the board of directors, audit committee, and external auditor) can influence earnings management and audit fees. The following sections provide a brief explanation of the necessity of including control variables.

Table 4.2 Definitions of Control Variables

Variable name	Variable label	Definition of proxy measure	Expected sign earning management	Expected sign audit fees
Firm size	*TA*	The natural logarithm of total assets	-	+
Market to book value	*MTB*	Proportion of market value of equity to book value of equity	-	+
Firm performance	*ROA*	Return on assets (proportion of net income to total assets)	?	+
Leverage	*Leverage*	Total liabilities divided by total assets	+	+
Receivables	*Debtors*	Proportion of receivables to total assets		+
Inventory	*Stock*	Proportion of stock to total assets		+
Audit committee size	*AC_Size*	Number of audit committee members	?	?
Audit committee tenure	*AC_Tenure*	Logarithm of audit committee tenure	-	+
Audit committee ownership	*AC_Share%*	Total shares owned by audit committee members to total outstanding shares (without shares owned by audit committee financial experts)	-	+
Board independence	*Board_Ind* %	Ratio of board independence	-	+
Board meeting	*B_Meet*	Number of board meetings	-	+
Big Four	*Big4*	Dummy variable of 1 firm audited by Big Four firm during the sample period, otherwise 0.	-	+
Auditor specialist	*Audit_SP*	Dummy variable of 1 if an auditor has 30% market share in an industry for year t, consistent with Cahan, Jeter and Naiker (2011), otherwise 0	-	+
Complexity	*Log_Subs*	The natural logarithm of the number of subsidiaries		+
Industry effect	*Industry*	Industry fixed effect	?	?
Year effect	*Year*	Year fixed effect	?	?

4.6.1. Firm Size

Firm size (*TA*) is considered one of the client firm's attributes. This study controlled for company size because it was expected that large companies with high total assets would be effective with reference to audit fees and earnings management (Simunic 1980; Watts & Zimmerman 1983). Using firm size as a control variable eliminates the bias caused by differences between companies (Abbott et al. 2007; Bryce, Ali & Mather 2015; Fondas & Sassalos 2000; Geiger & Rama 2006; Hua-Wei, Raghunandan & Rama 2009; Martínez-Ferrero 2014). With reference to earnings management, Jensen and Meckling (1976) stated that agency costs rise when the firm expands due to higher managerial discretion and taking advantage of opportunities. Firm size is expected to have a negative impact on earnings management since larger organisations may have a more extensive internal operational control system and be subjected to further market scrutiny (AlQadasi & Abidin 2018; Ghosh & Moon 2010). Other research, conversely, has found a positive link between firm size and earnings management (Dass et al. 2014; Saleh & Ahmed 2005). Firm size is also a primary factor of audit fees. The results of prior studies on the relationship between client firm size and audit fees strongly suggest that firm size is positively correlated with audit fees (Ferguson & Stokes 2002; Francis 1984; Francis, Reichelt & Wang 2005; Herbohn, Tutticci & Khor 2010; Simunic 1980; Srinidhi, He & Firth 2014). According to previous studies, firm size (*TA*) is defined as the logarithm of total assets of the firm (Asthana & Boone 2012; Ferguson & Stokes 2002; Francis, Reichelt & Wang 2005; Reichelt & Wang 2010).

4.6.2. Firm Growth

Studies on earnings management controls for company growth are based on the notion that firms may be under pressure to maintain or exceed growth expectations during times of rapid growth (Abbott & Parker 2000; Beasley 1996). Previous studies found that fast-growing firms would use earnings management techniques to keep up with the rate of growth within their industry (Abbott, Parker & Peters 2004; Skinner & Sloan 2002). According to Carcello and Nagy (2004), managers may exhibit aggressive earnings management practices in order to achieve a targeted growth rate. This study used the market to book value of equity ratio (*MTB*) as a measure of firm growth, consistent with the prior literature (Abbasi, Alam & Bhuiyan 2020; Chi, Lisic & Pevzner 2011). According to the direction of this study, *MTB* is associated positively with earnings management, as it is clear that firm growth rate is clearly related to earnings management characteristics (Dechow, Kothari & L. Watts 1998; Firth, Fung & Rui 2007). On the other

hand, firm growth has been found to impair the audit quality (Bills, Swanquist & Whited 2016). This study also predicted a negative sign on the variable of *MTB* and audit quality.

4.6.3. Firm Performance

Prior studies have also used firm performance as a control variable in earnings management and audit. Firm performance (return on assets *[ROA]*) is defined as net income divided by total assets. According to Collins, Pungaliya and Vijh (2017), high-performance and high-growth organisations systematically manage earnings down, while low-performance and low-growth firms systematically manage earnings up. According to Lee, Li and Yue (2006), managers are more motivated to inflate earnings when the company is performing well. Firm performance is positively associated with the earnings management determination of performance-oriented organisations (Kothari, Leone & Wasley 2005). This study expected to find a positive relationship between firm performance and earnings management.

On the other hand, profitability is often seen as a measure of inherent risk, and an auditor may face legal action for negligence if they issue a financial statement that does not reflect a true and fair perspective of the firm's financial status (Simunic 1980). Because profitability is a measure of a company's performance, managers have a tendency to 'window-dress' financial statements to make them appear better than they are (MacAvoy & Millstein 2005). Inevitably, this would increase the firm's financial risk, and external auditors would need to devote more time and effort to mitigate that risk (Cahan, Chen & Wang 2020; Simunic 1980). This study predicted that audit fees would be negatively related to firm performance. Cahan, Chen and Wang (2020) argued that, based on the ROA, the systematic risk and operation cash flow influence the audit fee and earnings management.

4.6.4. Firm Leverage

Firm leverage (*Leverage*) is another characteristic that can shape audit fees and earnings management. Leverage refers to a company's debt structure and has been used in prior studies to measure liquidity risk (Billings, Gao & Jia 2014; Boone, Khurana & Raman 2010). Consistent with previous research, this current study assessed leverage as the ratio of total debt to total assets to measure liquidity risk (Balsam, Krishnan & Yang 2003; Cohen et al. 2007; Coulton, Taylor & Taylor 2005). According to Cullinan, Du and Jiang (2010), increases in leverage have varying effects on earnings management methods. Scholars have discovered that high leverage firms manipulate earnings either

upwards to avoid debt covenant violations (Dechow & Skinner 2000; DeFond & Jiambalvo 1994; Elayan, Li & Meyer 2008; Erickson, Hanlon & Maydew 2004; Watts & Zimmerman 1978) or downwards. This serves to highlight a firm's financial difficulties to obtain better terms (Charitou, Louca & Vafeas 2007; DeAngelo, DeAngelo & Skinner 1994).

Regardless of whether high leverage enterprises participate in income-increasing or income-decreasing earnings management, the fact remains that leverage has an impact on earnings management behaviour (Charitou, Louca & Vafeas 2007). This research predicted that firm leverage would be positively associated with the absolute value of discretionary accruals (a proxy for earnings management). Previous research on highly geared firms has revealed that these firms tend to engage aggressively in earnings management (thereby adversely impacting financial reports) to avoid breaching covenants (Dechow & Skinner 2000; Erickson, Hanlon & Maydew 2004; Watts & Zimmerman 1978). Similarly, this present study expected that leverage would be correlated with audit fees in a positive way, with the majority of prior empirical studies suggesting likewise (Craswell, Stokes & Laughton 2002; DeFond, Raghunandan & Subramanyam 2002; Ferguson & Stokes 2002).

4.6.5. The Characteristics of Corporate Governance

Apart from firm specifications, this study controlled for corporate characteristics such as the board of directors, audit committee and external auditor (Abbott, Parker & Peters 2004; Abbott et al. 2003a; Klein 2002). Board characteristics, such as board independence, were controlled for in terms of financial reporting and audit quality. Earnings management tends to be lower in firms with very independent boards (Adams, Hermalin & Weisbach 2010; Busirin, Azmi & Zakaria 2015; Chen, Cheng & Wang 2015; Garcia Osma 2008; Habbash, Sindezingue & Salama 2013; Klein 2002). An independent board is more concerned with carrying out its monitoring duty effectively, putting further pressure on the external audit function to supplement their responsibility (Abbott & Parker 2000; Bartov, Gul & Tsui 2001; Bronson et al. 2009; Kuang 2011; Nehme & Jizi 2018). Bliss (2011), however, claimed that independent board members want greater audit quality, which leads to more work for external auditors and, as a result, higher audit costs. Independent directors have greater incentives to demand high-quality audits. In this study, board independence (*Board_Ind%*) was measured as the proportion of independent directors. Board independence was predicted to have a negative relationship with earnings management and a positive correlation with audit fees in this study.

In addition, the study controlled for board meetings. Earnings management techniques have been shown to be adversely related to board meetings (or diligence) (Habbash, Sindezingue & Salama 2013). Previous researchers have shown that increasing the number of board meetings can improve board effectiveness (Conger, Finegold & Lawler 1998; Vafeas 1999). Some studies have claimed that more frequent meetings lead to higher audit fees. However, this conclusion might be affected by the supply-based viewpoint, in which auditors correlate more board diligence with more effective monitoring, resulting in less audit work and a lower fee (Krishnan & Visvanathan 2009). This study measured board meetings (*B_Meet*) as the total number of board meetings. Board meetings were predicted to be negatively correlated with earnings management, and audit quality was predicted to be positively correlated with board meetings.

The present study includes control variables for audit committee characteristics that could influence the effectiveness of financial expertise in mitigating earnings management and enhancing audit quality. Specifically, the study controls for audit committee size (*AC_Size*). Given the potential for larger audit committees to have both positive effects, such as diverse director experiences (Zalata, Tauringana & Tingbani 2018), and negative effects, such as potential negligence of responsibilities (Kent, Routledge & Stewart 2010), this study refrains from making specific predictions regarding the relationship between audit committee size and audit fees, and the earnings management model.

Furthermore, prior research has established that audit committee characteristics, such as Audit committee tenure (*AC_Tenure*) and audit committee ownership (*AC_Share%*), can impact earnings management and audit fees (Abbasi, Alam & Bhuiyan 2020; Dhaliwal, Naiker & Navissi 2010). This study anticipates a negative correlation between audit committee characteristics (*AC_Tenure* and *AC_Share%*) and earnings management, along with a positive correlation with audit quality (as discussed in Chapter Two, section 2.3.3). However, audit committee characteristics, including gender diversity, industry expertise, and multiple directorships, were excluded from the multivariate analyses as control variables due to concerns of multicollinearity with the independent variables.

The study also controlled for audit-related characteristics, such as audit firm size (Abbasi, Alam & Bhuiyan 2020; Cahan, Jeter & Naiker 2011; Rainsbury, Bradbury & Cahan 2009). Big Four firms provide superior audit quality due to the sheer size of their employee pools, standardised audit methodologies, and the availability of appropriate

second partner reviews (Lawrence, Minutti-Meza & Zhang 2011). It is expected that large audit firms will employ highly experienced employees who have stronger incentives and greater ability to provide high-quality auditing and thus enhance the quality of financial reporting (Alzoubi 2018; Kaklar, Kangarlouei & Motavassel 2012; Orazalin & Akhmetzhanov 2019). Audit firm size measures as a dummy variable of one firm audited by a Big Four firm during the sample period (*Big4)*, otherwise zero. *Big4* was expected to be associated with a high-quality audit and less earnings management.

The study also controlled for audit industry socialisation. Prior research has shown that industry expertise is an indication of an auditor's technical competence (Balsam, Krishnan & Yang 2003; Craswell 1999; Solomon, Shields & Whittington 1999). The auditor who possesses specific knowledge of the client's business environment is expected to have superior competence, stronger reputation incentives to provide high-quality audits (Wang, Wong & Xia 2008), and be more effective in deterring aggressive earnings management (Balsam, Krishnan & Yang 2003; Jaggi, Gul & Lau 2012; Zhou & Elder 2001). A number of different proxies have been used to measure this auditor attribute, including market leadership, dominance, and market share, since industry specialisation is not directly observable (Balsam, Krishnan & Yang 2003; Craswell, Francis & Taylor 1995; DeFond, Raghunandan & Subramanyam 2002; Hogan & Jeter 1999). In line with Cahan, Jeter and Naiker (2011), this study estimated the auditors' market share based on client sales. The numerator was the sum of the sales of all audit clients in a particular industry. In the denominator, all clients in the particular industry were summed cross all audit firms in that industry (including both Big Four and non-Big Four firms auditing in the industry).[34] Consistent with the previous literature (Sultana, Cahan & Rahman 2020; Sultana, Singh & Rahman 2019), an auditor with 30 percent market share of a given industry is defined as an industry specialist for that industry. Audit industry socialisation (*Audit_SP*) was expected to be associated positively with a high-quality audit and negatively with earnings management.

Another commonly examined measure of inherent risk in the context of audit fees is the inclusion of accounts receivable (*Debtors*) and inventories (*Stock*), both scaled by total assets, as proposed by Francis et al. (2005). The verification of accounts receivable often necessitates customer confirmation, while inventory verification requires physical

[34] For estimating the industry market share in a given industry in Australia, all nine main industries in GICS were used.

examination. Therefore, it is anticipated that these two variables will exhibit positive coefficients. It has been posited that audit fees are positively correlated with inherent risk in an audit engagement, especially for firms with large and complex inventories and a high number of customers/receivables. Such firms require greater effort and scrutiny from external auditors, thereby resulting in higher audit fees.

Furthermore, the study also incorporates a control variable for the number of subsidiaries (*Log_Subs)*. A firm with a high number of subsidiaries is typically associated with greater complexity. This complexity arises from the intricate transactions resulting from inter-company dealings, necessitating external auditors to devote more time to ensure that the financial statements are devoid of material misstatements. Consequently, higher audit fees are imposed, reflecting the need for knowledgeable and experienced auditors to manage these complexities.

4.6.6. Year Effects

Year factors (*Year*) were also employed to control for the effect of time period. The amount of accruals has proven to change from year to year (Myers, Myers & Omer 2003). Also, the scale of audit fees fluctuates annually, according to one analysis (Achleitner et al. 2014). *Year* denotes series indicator variables that manage temporal disparities in reporting periods for firm-year observations, with firm scoring one if financial data matches to time period *t*, otherwise zero. This research used a five-year observation period (2016 to 2020).

4.6.7. Industry Effects

Firm fixed effects (*Industry*) were included in all regressions to account for the unobserved but time-invariant characteristics of firms. The variable (*Industry*) controlled for the differences in earnings management practices between industry sectors (Barth, Cram & Nelson 2001). Studies in the field of audit quality have discovered that audit fees vary between industries and/or sectors (Maher et al. 1992; Palmrose 1986; Simunic 1980). In terms of measurement, the variable (*Industry*) was scored one if the client firm was from within the one GICS industry during the time period. Otherwise, the variable (*Industry)* received a score of zero. In accordance with other studies on earnings management and audit fees, energy, materials, industrials, consumer discretionary, consumer staples, health care, IT, telecommunication services, and utilities were the nine main industrial classifications used in this study.

4.7. Research Design

In this study, pooled OLS multiple regression was used to analyse the relationship between selected auditor attributes and earnings management. Using this multivariate technique, the study hypotheses were formally tested. A pooled regression analysis offers greater flexibility in modelling sample-specific behaviour (Greene 2007). The pooled analysis can also be used to examine the sensitivity of results to alternative specifications (Beaver 1998).

First, the study investigated the impact of financial expertise characteristics on financial reporting quality using earnings management as a proxy. To test hypotheses H1, H2, H3, H4, and H5, the study estimated the following:

$$\begin{aligned} MJM_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} \\ & + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} \\ & + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} AC\_Size\%_{it} + \beta_{11} AC\_Tenure_{it} \\ & + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} \\ & + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (5)$$

Second, the study investigated the impact of financial expertise characteristics on audit quality using the log of audit fees. To test hypotheses H6, H7, H8, H9, and H10, the study estimated the following regression model:

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} \\ & + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} \\ & + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} Debtors_{it} \\ & + \beta_{11} Stock_{it} + \beta_{12} AC\_Size_{it} + \beta_{13} AC\_Tenure_{it} + \beta_{14} AC\_Share\%_{it} \\ & + \beta_{15} B\_Meet_{it} + \beta_{16} Board\_Ind\%_{it} + \beta_{17} Big4_{it} + \beta_{18} Audit\_SP_{it} \\ & + \beta_{19} Log\_Subs_{it} + \beta_{20} Year_{it} + \beta_{21} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (6)$$

See Table 4.1 and Table 4.2 for definitions of study variables.

4.8. Sensitivity Analysis

To ensure that the findings were reliable, sensitivity testing was conducted. To measure discretionary accruals, for example, this study used the performance adjusted model to ensure that the main findings relating to audit committee financial experts' characteristics and abnormal accruals were consistent across the various popular measures of abnormal accruals. Also, abnormal audit fees were used as an alternative measure for natural logarithm of audit fees. To address the bias due to endogeneity, this research utilised several robustness and sensitivity tests.

4.9. Chapter Summary

The research methodology used to test the hypotheses was explained in this chapter. The sample, the source documentation selected, and the time period analysed were also

justified. The main empirical tests conducted in this study were identified, including the measures for the dependent variable**s** (earnings management and audit quality) and independent variable**s** (the characteristics of audit financial experts).

The descriptive statistics and basic univariate analysis of the sample are presented in Chapter Five. Information relating to cleaning and exclusion of the data is provided. The mean and standard deviation are documented as examples of descriptive statistics. Finally, the chapter presents a correlation matrix with Pearson listwise coefficients for the study's continuous and dichotomous variables.

Chapter Five: Descriptive Statistics and Correlation Analysis

5.1. Chapter Overview

Chapter Four described the process of collecting data and evaluating the selected sample. The personal characteristics of financial experts, earnings management, audit quality and controls were also addressed, as well as the statistical tests and models used in the study.

This chapter discusses the descriptive statistics for the variables employed in this study, followed by the sample selection process and final industry breakdowns of the usable sample. A comprehensive discussion is provided on the descriptive statistics for the dependent variable, independent variables, and control variables. Correlation analysis is then explained, and the chapter ends with a summary of the main points covered.

5.2. Cleaning of the Data

A data screening check was conducted for each variable prior to analysis. Checks were done for data entry accuracy, missing values, and normality checks. Checking for normality is crucial in regression analysis, and it is often advisable to assess the normality of all variables. This practice ensures the use of appropriate statistical methods and enhances the reliability of the results. Data authentication was performed on a sample basis to verify that entries were accurate and to ensure missing values were not present by reviewing previously entered data. About 15 percent of the data was examined in this way and no errors were found. The skewness, kurtosis, and Kolmogorov-Smirnov p-value of each continuous variable was tested for normality. While some variables did not exhibit normal distributions, the inclusion of the variables remained justifiable, based on previous research (Balsam, Krishnan & Yang 2003; Barton & Simko 2002; Chi, Lisic & Pevzner 2011; Gul, Jaggi & Krishnan 2007; Sun & Rath 2009).

As noted in the empirical earnings management literature, variables such as client firm size were logarithmically transformed to produce a better linear fit with the dependent variable, specifically discretionary accruals (Fargher, Lee & Mande 2008; Frankel, Johnson & Nelson 2002; Krishnan 2003). According to the central limit theorem principle, large samples (at least 30) can be used with confidence for subsequent multivariate analysis, contingent on the number of degrees of freedom and independent variables used (Hair 2009; Hair, Anderson & Tatham 1995). In line with previous earnings management research (Cahan, Chen & Wang 2020; Cornett, Marcus & Tehranian 2008; Krishnan, Wen & Zhao 2011; Stubben 2010; Teoh, Welch & Wong

1998), this study winsorized all continuous variables at the one and 99 percent levels, in order to eliminate the effect of influential eccentric observations and mitigate the impact of outliers.[35]

5.3. Sample Selection Process and Industry Breakdown

The initial sample consisted of 2,495 firms listed on the ASX All Ordinaries Index from 2016 to 2020. The sample selection and industry breakdowns are presented in Table 5.1. These companies had to have operated throughout the study period in order to be included in the sample. They were also chosen as they provided readily accessible information in an appropriate form. Consistent with the previous literature (including the Australian context), this study excluded all finance industry firms, such as financial institutions (320), and real estate firms (230) from the sample, since they operate very differently (Bhuiyan & Mabel 2020; Singh et al. 2019; Tham et al. 2019). These firms function according to different accounting laws and regulations, and earnings management models may not apply to their monetary statements (Fama & French 1992). Scholars have argued that the reason for excluding financial firms is due to the high leverage that is normal for these companies. High leverage probably does not have the same meaning as it does for non-financial firms, where high leverage is more likely to indicate distress.[36] Other companies were excluded as they were not listed continuously on the ASX during the study period (e.g., initial public offerings [IPOs] and firms delisted for a time and then relisted). Within this context, 455 firms were eliminated to prevent undue influence from unexpected share price changes. Again, this was consistent with previous research (Coulton, Ruddock & Taylor 2007). The financial statements of ASX listed companies with their headquarters abroad are usually not prepared in accordance with the disclosure requirements for other ASX listed companies. For this reason they were excluded, consistent with past practice (Carey & Simnett 2006; Clifford & Evans 1997).

The study also excluded firms with missing financial information or corporate

[35] As a robustness check, all models were estimated without winsorizing and no meaningful differences in the regression results were observed.

[36] While it may be appropriate to include financial firms in the audit fee analyses, many governance researchers choose to eliminate them due to differences in regulatory oversight (that can limit the board's role) and to differences in financial reporting formats (Abbott, Parker & Peters 2004; Cao, Myers & Omer 2012; Dao, Raghunandan & Rama 2012). For earnings management studies, this is especially true, since the parameters used in accruals models differ across companies (Abbott et al. 2007; Cohen et al. 2014; Dhaliwal, Naiker & Navissi 2010; Krishnan, Wen & Zhao 2011).

governance details (365) for the observation period (Klein 2002), as well as foreign firms (210). Large and small firms (55) were excluded to eliminate any variance in the sample.[37] The selection of a sample that excludes such firms may make empirical models of discretionary accruals less problematic. In accordance with previous research, GICS industry groups with fewer than six observations were also omitted from the sample (DeFond & Jiambalvo 1994; Subramanyam 1996). The final sample for the study pool comprised 172 companies, with a total of 860 year-observations.

Table 5.1 Sample Selection and Industry Breakdown

Panel A: Sample selection	**No. of firms**	**No. of observations**
Number of firm-years listed on ASX from 2016 to 2020	499	2,495
Exclusions:		
Financial institutions	64	320
Trusts and investments	46	230
Firms with missing financial or corporate governance information	73	365
Foreign incorporated firms	42	210
IPOs and firms not continuously listed	91	455
Small and large firms	10	55
Total number excluded	327	1,635
*Samples after excluded firms (172 * 5)*	172	860
Panel B: Sample firm breakdown by ASX industry	**No. of firm observations**	**% of sample**
Consumer discretionary	175	20%
Consumer staples	65	8%
Energy	70	8%
Health care	90	10%
Industrials	155	18%
Information technology	45	5%
Materials	200	23%
Telecommunication services	30	3%
Utilities	30	3%
Final sample	860	100%

As evident in Table 5.1, materials (23%) was the most prominent industry sector in the sample, followed by consumer discretionary (20%). Telecommunication services (3%) and utilities (3%) were the least represented sectors in the sample. Because each industry had a proportionate representation of the ASX market, the subsequent multivariate analysis could control for industry effects.

5.4. Descriptive Statistics

Descriptive statistics are provided in Table 5.2 for all dependent, independent, and

[37] The initial sample had many outliers, as indicated by numbers beyond ±3SD. To ensure sufficient data to run the model, a total of 55 such outliers were deleted from the sample used in empirical model estimation. This was expected to provide estimates that were more efficient and representative of the general population.

control variables.[38] The absolute values of discretionary accruals were calculated using the modified Jones model (*MJM*) and showed a mean (median) of .109 (0.0498), and a standard deviation of .19 in the full sample. An average of 15 percent of total assets was managed by earnings in Australian listed companies, which is relatively significant (Hall, Agrawal & Agrawal 2013; Sun & Rath 2009). Previous studies in Australia and the US have reported similar results (Davidson, Goodwin-Stewart & Kent 2005; Frankel, Johnson & Nelson 2002; Sun & Rath 2009; Tham et al. 2019). Discretionary accruals in the US had a mean (median) and standard deviation of 0.12 (0.07) and 0.20 (Frankel, Johnson & Nelson 2002). According to Davidson, Goodwin-Stewart and Kent (2005), discretionary accruals in Australia had a mean (median) and standard deviation of 0.156 (0.094) and 0.224.

The statistics indicate that the mean (median) proportion of financial experts was 0.742 (.75). This strongly suggests that audit committee members were classified as possessing overall financial expertise. The average proportion of female financial expert directors was 0.175, and the average number of financial experts with industry skills was 0.355. The mean (median) financial expert tenure was 6.538 (5.5), while the share mean (median) was 20.38 (0.606), with the shareholdings varying between 0.667% (25 percentile) and 3.85% (75 percentile). The average of financial experts with multiple directorships had a mean (median) of 2.153 (2) with a standard deviation of 1.378. Suggested here is that the financial expert directors in the sample had, on average, at least two directorships in their portfolio. In addition, it infers that the average number of financial experts in the sample ranged from one (25 percentile) to three (75 percentile). As shown in the same table, firm size in the sample ranged from 5.153 (25 percentile) to 6.401 (75 percentile). Notably, the market-to-book ratio displays a wide range with a high standard deviation. This signifies significant variation in the market value of equity concerning book value. The mean of the *ROA* is 0.016, which indicates a modest level of profitability on average. In terms of leverage and debt metrics, the data reveals that, on average, firms maintain a moderate level of leverage. The Big Four audit firms audited 79% of the firm-year observations, while 25% of the firm-year observations were conducted by industry specialist auditors.

[38] Continuous variables were winsorized at the one percent and the 99 percent levels.

Table 5.2 Descriptive Statistics

Variables name	Mean	Std. Dev.	25th percentile	Median (50th percentile)	75th percentile
MJM	0.109	0.19	0.0213	0.0498	0.108
Audit_Fee	5.623	0.541	5.245	5.624	5.971
Audit_Fee$	$1,247	$2,284	$242	$579	$1,344
FEXP_Female%	0.175	0.204	0	0	0.333
FEXP_Industry%	0.355	0.287	0	0.333	0.6
FEXP_Multi%	2.153	1.378	1	2	3
FEXP_Tenure%	6.538	4.456	3.667	5.5	8
FEXP_Share%	20.38	68.50	0.145	0.606	3.850
FEXP%	0.742	0.235	0.667	0.75	1
TA	5.761	0.795	5.153	5.803	6.401
MTB	3.479	3.683	1.28	2.13	4.065
ROA	0.016	0.228	-0.0297	0.05	0.108
Leverage	0.383	0.734	0.00984	0.242	0.547
Debtors	0.222	0.656	0.0211	0.0896	0.174
Stock	0.0889	0.113	0.00072	0.0423	0.147
AC_Size	3.406	0.810	3	3	4
AC_Tenure	2.874	0.593	2.485	2.89	3.277
AC_Share%	17.48	81.4	0	0.0347	0.531
B_Meet	11.96	4.345	9	11	14
Board_Ind%	78.84	25.21	66.67	83.33	100
Big4	0.79	0.408	1	1	1
Audit_SP	0.248	0.432	0	0	0
Log_Subs	2.711	1.273	1.792	2.708	3.611

Where: MJM= Absolute value of discretionary accruals of firm *i* for time *t* calculated using the cross-sectional version of the modified Jones model introduced by Dechow, Sloan, and Sweeney (1995)*; Audit_Fee* = Natural logarithm of the audit fee*; Audit_Fee$ = Sum of the fees of auditing financial statements and other audit-related fees (in thousands of dollars); FEXP_Female%* = Proportion of female financial expert directors to the total number of audit committee members*; FEXP_Industry%* = Proportion of financial expert directors with industry skills to the total number of audit committee members; *FEXP_Multi%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members*; FEXP_Tenure%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%* = Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); *FEXP%* = Proportion of financial expert directors serving on the audit committee; *TA* = Natural logarithm of total assets; *MTB* = Proportion of market value of equity to book value of equity*; ROA* = Return on assets (net income/total assets); *Leverage* = Total liabilities divided by total assets; *Debtors*= Proportion of receivables to total assets*; Stock = Proportion of stock to total assets; AC_Size* = Number of audit committee members; *AC_Tenure* = Natural logarithm of audit committee tenure*; AC_Share* = Total of shares owned by audit committee members to total of outstanding shares (without shares owned by audit committee financial experts); *B_Meet* = Number of board meetings; *Board_Ind* = Ratio of board independence*; Big4* = Dummy variable for 1 firm audited by Big Four firm during the sample period, otherwise 0; *Audit_SP* = Use dummy variable 1, otherwise 0; *Log_Subs* = Natural logarithm of the number of subsidiaries.

5.5. Correlation Analysis

In Table 5.3 Pearson Correlation Coefficient are shown for continuous and dichotomous variables. The table includes the earnings management proxy, and absolute value of discretionary accruals calculated using the modified Jones model *(MJM)*. Table 5.3 highlights the number of observations based on correlation coefficients. First, both *MJM* and *Audit_Fee* were significantly correlated with two of the five personal characteristics of financial experts, which is of major interest in this study. These

characteristics were the existence of female experts (*FEXP_Female%*), and the proportion of financial expert directors with multiple directorships to the total number of audit committee members (*FEXP_Multi%*) at 1%, 5% and 10%. Second, both *MJM* and *Audit_Fee* were significantly correlated with proxies that measured firm size (natural logarithm of total assets) (*TA*) and business performance (in this case, return on assets *[ROA]*). Since the previous literature, discussed in Chapter Two, indicates that firm size and firm performance have a significant relationship with earnings management and audit fees, this is not surprising. Third, both *MJM* and *Audit_Fee* were significantly correlated with proxies that measure corporate governance attributes, namely *AC_Size*, *AC_Tenure, B_Meet*, *Big4 and Log_Subs*.

Table 5.3 Pearson Correlation Coefficient

Variables	*MJM*	*Audit_Fee*	*FEXP_ Gender%*	*FEXP_ Industry%*	*FEXP_ Multi%*	*FEXP_ Tenure%*	*FEXP_ Share%*	*TA*	*MTB*	*ROA*	*Leverage*
MJM	1.000	-									
Audit_Fee	-	1.000									
FEXP_Female %	-0.118***	0.335***	1.000								
FEXP_Industry %	0.073**	-0.167***	0.000	1.000							
FEXP_Multi%	-0.126***	0.277***	0.144***	-0.036	1.000						
FEXP_Tenure %	-0.006	-0.106***	-0.163***	0.025	-0.180***	1.000					
FEXP_Share%	0.031	-0.203***	-0.184***	-0.072**	-0.212***	0.283***	1.000				
TA	-0.218***	0.833***	0.366***	-0.098***	0.237***	-0.113***	-0.236***	1.000			
MTB	-0.035	-0.190***	-0.048	0.040	0.001	0.187***	0.164***	-0.331***	1.000		
ROA	-0.295***	0.249***	0.141***	-0.042	0.124***	0.017	-0.013	0.238***	0.054	1.000	
Leverage	-0.123***	0.285***	0.158***	-0.091***	0.003	0.047	0.043	0.360***	0.124***	0.093***	1.000
Debtors	0.125***	-0.215***	-0.085**	0.028	0.036	0.043	-0.012	-0.212***	0.026	-0.038	-0.083**
Stock	-0.100***	0.016	0.079**	-0.016	-0.008	0.040	0.149***	0.019	-0.060*	0.196***	-0.008
AC_Size	-0.099***	0.381***	0.181***	-0.204***	0.144***	-0.156***	-0.116***	0.409***	-0.067**	0.075**	0.200***
AC_Tenure	-0.070**	0.117***	-0.075**	-0.118***	-0.088***	0.650***	0.157***	0.096***	0.149***	0.045	0.117***
AC_Share%	-0.006	-0.119***	-0.147***	-0.130***	-0.199***	0.105***	0.343***	-0.147***	0.101***	0.072**	0.038
B_Meet	-0.123***	0.223***	0.185***	-0.069**	0.140***	-0.046	-0.132***	0.212***	-0.126***	0.151***	0.097***
Board_Ind%	-0.034	0.165***	0.163***	0.088**	0.176***	-0.160***	-0.280***	0.216***	-0.072**	0.054	0.043
Big4	-0.128***	0.439***	0.256***	-0.019	0.219***	-0.155***	-0.217***	0.443***	-0.128***	0.078**	0.162***
Audit_SP	-0.024	0.235***	0.058*	-0.083**	-0.048	0.022	-0.078**	0.190***	-0.008	-0.020	0.079**
Log_Subs	-0.170***	0.637***	0.203***	-0.151***	0.192***	-0.085**	-0.099***	0.589***	-0.175***	0.155***	0.166***

	Debtors	*Stock*	*AC_Size*	*AC_ Tenure*	*AC_ Share%*	*B_Meet*	*Board_Ind*	*Big4*	*Log_Subs*	
	1.000									
AC_Industry%	-0.071**	1.000								
AC_Multi%	0.027	0.040	1.000							
AC_Tenure	0.000	0.058*	0.248***	1.000						
AC_Share%	-0.019	-0.026	-0.019	0.151***	1.000					
B_Meet	0.056*	0.063*	0.176***	0.003	-0.097***	1.000				
Board_Ind	-0.153***	0.015	0.170***	-0.123***	-0.286***	0.130***	1.000			
Big4	-0.024	-0.002	0.224***	-0.065*	-0.265***	0.117***	0.308***	1.000		
Audit_SP	-0.020	-0.093***	0.218***	0.129***	0.029	0.046	0.053	0.296***	1.000	
Log_Subs	-0.127***	0.019	0.176***	0.058*	-0.011	0.095***	0.017	0.237***	0.179***	1.000

Notes: ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

5.6. Univariate Analysis

This study extended its analysis by incorporating univariate analysis to investigate mean and median differences among firms with financial experts who are female, possess industry experience, own shares, and hold at least one outside board seat. Drawing upon the work of Abdul Wahab et al. (2021) and Marzuki, Wahab and Haron (2016), the analysis presented in Panels A and B of Table 5.4 highlights substantial and noteworthy differences in both the mean (t-test) and median (Mann-Whitney) across the two sub-samples of financial experts distinguished by specific personal characteristics. These distinctions are observed in various aspects, encompassing both dependent (*MJM* and *Audit_Fee*) and independent variables (*FEXP_Female%, FEXP_Industry%, FEXP_Multi%, FEXP_Tenure%,* and *FEXP_Share%*), as well as control variables (*TA, MTB, ROA, Leverage, Debtors, Stock, AC_Size, AC_Tenure, AC_Share%, B_Meet, Board_Ind%, Big4, Audit_SP,* and *Log_Subs*). The primary aim of this analysis was to explore variations in the variables between firms with financial experts possessing specific characters of interest (female, industry experience, multiple directorships, and ownership) and those without such characters.

Table 5.4 Univariate Analysis

Panel A: Mean and Median Differences Between Firms with Female and Industry Financial Experts on Their Audit Committee

	Column 1						Column 2					
	***Female_FEXP* = 0 (n= 437)**		***Female_FEXP* = 1 (n=423)**		**p-value**		***Industry_FEXP* = 0 (n=234)**		***Industry_FEXP* = 1 (n=626)**		**p-value**	
Variables name	**Mean**	**Median**	**Mean**	**Median**	**t-test**	**Mann-Whiteny**	**Mean**	**Median**	**Mean**	**Median**	**t-test**	**Mann-Whiteny**
MJM	0.138	0.060	0.079	0.042	0.000	0.000	0.088	0.044	0.117	0.052	0.044	0.015
Audit_Fee	5.417	5.391	5.835	5.809	0.000	0.000	5.654	5.625	5.611	5.623	0.301	0.498
FEXP_Female%							0.165	0.000	0.179	0.200	0.359	0.947
FEXP_Industry%	0.361	0.333	0.350	0.333	0.561	0.493						
FEXP_Multi%	1.940	1.667	2.373	2.250	0.000	0.000	2.102	2.000	2.171	2.000	0.514	0.284
FEXP_Tenure%	7.305	6.000	5.747	5.000	0.000	0.000	6.505	5.708	6.551	5.450	0.894	0.553
FEXP_Share%	33.430	1.835	6.903	0.333	0.000	0.000	24.610	0.716	18.800	0.564	0.931	0.503
TA	5.437	5.395	6.096	6.188	0.000	0.000	5.738	5.709	5.770	5.855	0.604	0.360
MTB	3.695	2.330	3.256	2.050	0.081	0.505	3.625	2.260	3.425	2.080	0.479	0.325
ROA	-0.022	0.037	0.055	0.058	0.000	0.000	0.032	0.055	0.010	0.048	0.208	0.316
Leverage	0.235	0.113	0.536	0.376	0.000	0.000	0.416	0.280	0.370	0.227	0.420	0.022
Debtors	0.284	0.094	0.158	0.080	0.005	0.165	0.147	0.099	0.250	0.084	0.040	0.073
Stock	0.078	0.029	0.100	0.067	0.004	0.000	0.094	0.045	0.087	0.042	0.410	0.075
AC_Size	3.128	3.000	3.693	4.000	0.000	0.000	3.436	3.000	3.395	3.000	0.506	0.449
AC_Tenure	2.885	2.944	2.862	2.890	0.561	0.652	2.909	2.944	2.861	2.890	0.289	0.240
AC_Share%	32.510	0.098	6.989	0.000	0.000	0.000	39.350	0.093	12.710	0.003	0.002	0.007
B_Meet	11.050	11.000	12.890	12.000	0.000	0.000	11.920	12.000	11.970	11.000	0.879	0.870
Board_Ind%	74.450	80.000	83.380	100.000	0.000	0.000	72.880	80.000	81.070	83.330	0.000	0.003

Big4	0.666	1.000	0.917	1.000	0.000	-	0.756	1.000	0.802	1.000	0.145	-
Audit_SP	0.195	0.000	0.303	0.000	0.000	-	0.274	0.000	0.238	0.000	0.284	-
Log_Subs	2.418	2.398	3.014	3.045	0.000	0.000	2.887	2.890	2.646	2.639	0.013	0.006

Panel B: Mean and Median Differences Between Firms With Financial Experts, Ownership and Multiple Directorships on Their Audit Committee

	Column 1				**Column 2**							
	Multi_FEXP =0 (n=68)		***Multi_FEXP =1 (n=792)***		**p-value**		***Share_FEXP = 0 (n=35)***		***Share_FEXP=1 (n=825)***		**p-value**	
Variables name	**Mean**	**Median**	**Mean**	**Median**	**t-test**	**Mann-Whiteny**	**Mean**	**Median**	**Mean**	**Median**	**t-test**	**Mann-Whiteny**
MJM	0.137	0.065	0.107	0.049	0.399	0.203	0.257	0.180	0.103	0.047	0.000	0.000
Audit_Fee	5.241	5.238	5.655	5.662	0.000	0.000	5.275	5.204	5.637	5.640	0.000	0.000
FEXP_Female%	0.041	0.000	0.187	0.200	0.000	0.000	0.068	0.000	0.180	0.167	0.001	0.003
FEXP_Industry%	0.282	0.333	0.362	0.333	0.073	0.027	0.381	0.333	0.354	0.333	0.591	0.512
FEXP_Multi%							1.414	1.000	2.184	2.000	0.001	0.000
FEXP_Tenure%	7.961	5.000	6.416	5.500	0.856	0.006	3.452	3.000	6.669	5.667	0.000	0.000
FEXP_Share%	53.020	2.889	17.580	0.462	0.000	0.000						
TA	5.085	5.036	5.819	5.860	0.000	0.000	5.379	5.291	5.777	5.830	0.004	0.002
MTB	3.191	1.920	3.504	2.135	0.580	0.502	2.316	1.610	3.528	2.170	0.056	0.025
ROA	-0.054	-0.004	0.022	0.052	0.003	0.008	-0.022	0.027	0.018	0.051	0.313	0.307
Leverage	0.162	0.191	0.402	0.246	0.622	0.010	0.168	0.048	0.392	0.254	0.077	0.001
Debtors	0.186	0.081	0.225	0.090	0.503	0.641	1.322	0.073	0.175	0.090	0.000	0.574
Stock	0.098	0.060	0.088	0.042	0.511	0.475	0.058	0.039	0.090	0.042	0.094	0.252
AC_Size	2.912	3.000	3.448	3.000	0.000	0.000	3.314	3.000	3.410	3.000	0.495	0.350
AC_Tenure	2.876	2.773	2.874	2.944	0.466	0.972	2.467	2.485	2.891	2.944	0.000	0.000
AC_Share%	132.800	6.808	10.270	0.024	0.000	0.000	15.950	0.289	20.130	0.033	0.558	0.001

B_Meet	10.250	10.000	12.100	11.000	0.002	0.001	13.000	11.000	11.910	11.000	0.147	0.174
Board_Ind%	56.620	66.670	80.750	83.330	0.000	0.000	73.370	75.000	79.080	83.330	0.189	0.097
Big4	0.500	0.500	0.814	1.000	-	0.000	0.657	1.000	0.795	1.000	0.050	
Audit_SP	0.338	0.000	0.240	0.000	-	0.072	0.514	1.000	0.236	0.000	0.000	
Log_Subs	2.290	2.197	2.747	2.740	0.004	0.004	2.338	2.197	2.727	2.708	0.076	0.033

Notes: *Female_FEXP* takes the value of 1 if the firm has at least one female financial expert on its audit committee*; Industry_FEXP* takes the value of 1 if the firm has at least one industry financial expert on its audit committee; *Share_FEXP* takes the value of 1 if the firm has at least financial expert that owns shares on its audit committee*; Multi_FEXP* takes the value of 1 if the firm has a financial expert with at least one outside seat on its audit committee*; MJM* = Absolute value of discretionary accruals of firm *i* for time *t* calculated using the cross-sectional version of the modified Jones model introduced by Dechow, Sloan, and Sweeney (1995)*; Audit_Fee* = Natural logarithm of the audit fee*; FEXP_Female%* = Proportion of female financial expert directors to the total number of audit committee members*; FEXP_Industry%* = Proportion of financial expert directors with industry skills to the total number of audit committee members; *FEXP_Multi%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members*; FEXP_Tenure%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%* = Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); *FEXP%* = Proportion of financial expert directors serving on the audit committee; *TA* = Natural logarithm of total assets; *MTB* = Proportion of market value of equity to book value of equity*; ROA* = Return on assets (net income/total assets); *Leverage* = Total liabilities divided by total assets; *Debtors* = Proportion of receivables to total assets*; Stock* = Proportion of stock to total assets*; AC_Size* = Number of audit committee members; *AC_Tenure* = Natural logarithm of audit committee tenure*; AC_Share* = Total of shares owned by audit committee members to total of outstanding shares (without shares owned by audit committee financial experts); *B_Meet* = Number of board meetings; *Board_Ind* = Ratio of board independence*; Big4* = Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; *Audit_SP* = Use dummy variable 1, otherwise 0; *Log_Subs* = Natural logarithm of the number of subsidiaries.

5.6.1. Female Financial Experts

Based on the analysis results, it is evident that 423 firms, which constitute 49% of the total sample, had female financial experts on their audit committee, while the remaining 437 firms, accounting for 51% of the total sample, did not have such experts. The univariate analysis in Column 1 of Panel A in Table 5.4 presents the results of a comparison between firms with female financial experts (*Female_FEXP* = 1) and those without (*Female_FEXP* = 0). These results indicate that several variables exhibited significant differences in mean (t-test) and median (Mann-Whitney) tests. This suggests that the presence of female financial experts in the audit committee is associated with lower earnings management and higher audit fees. Earnings management showed substantial variations, with a significantly lower mean (0.079 vs. 0.138, t-test p-value = 0.000) and median (0.042 vs. 0.060, Mann-Whitney U test p-value = 0.000) in firms with female financial experts. Similarly, *Audit_Fee* displayed marked differences, with a higher mean (5.835 vs. 5.417, t-test p-value = 0.000) and median (5.809 vs. 5.391, Mann-Whitney U test p-value = 0.000) in firms with female financial experts. These findings suggest that the presence of female financial experts in the audit committee is associated with lower earnings management and higher audit fees.

Regarding the independent variables, no statistically significant differences exist in the mean and median values between firms with financial experts possessing industry experience (FEXP_Industry%) and those without. This is indicated by both the t-test and Mann-Whitney test, which yield p-values exceeding 0.05. Conversely, firms with female financial experts (mean: 2.373) demonstrate higher percentages of multiple directorships (FEXP_Multi%) compared to those without (mean: 1.940). This disparity is statistically significant according to both the t-test and Mann-Whitney test (p-values: 0.000). Similarly, firms with female financial experts (mean: 5.747) exhibit slightly lower tenure percentages (FEXP_Tenure%) compared to those without (mean: 7.305). Both the t-test and Mann-Whitney test confirm the presence of statistically significant differences (p-values: 0.000) in this regard. There are no significant differences in the mean and median values of firms with financial experts with industry experience (*FEXP_Industry%*) or between those with and without female financial experts. Both the t-test and Mann-Whitney test results show p-values above 0.05. On the other hand, firms with female financial experts (mean: 2.373) have higher percentages of multiple directorships

(FEXP_Multi%) compared to those without (mean: 1.940). Both the t-test and Mann-Whitney test suggest a statistically significant difference (p-values: 0.000). Firms with female financial experts (mean: 5.747) have slightly lower tenure percentages (FEXP_Tenure%) compared to those without (mean: 7.305). The t-test and Mann-Whitney test both indicate significant differences (p-values: 0.000). Firms with female financial experts (mean: 6.903) exhibit higher ownership percentages (FEXP_Share%) compared to those without (mean: 33.430). Both statistical tests confirm this significant difference (p-values: 0.000).

For the control variables, *TA, ROA, Leverage, Stock, AC_Size, AC_Share%, B_Meet, Board_Ind%, Big4, Audit_SP, and Log_Subs,* both the t-test and Mann-Whitney test consistently yield p-values of 0.000, indicating significant differences between the groups. In contrast, *MTB, Debtors, and AC_Tenure* show no statistically significant differences.

5.6.2. Financial Experts with Industry Experience

The univariate analysis presented in Column 2 of Panel A in Table 5.4, relating to firms with and without industry financial experts (*Industry_FEXP*) provides insights into the differences in various financial and governance characteristics. According to the analysis findings, 234 firms (constituting 27% of the total sample) had financial experts with industry experience on their audit committees, while 626 firms (comprising 73% of the total sample) did not have such experts among the listed firms on the ASX during the entire study period (2016 – 2020). Firms with industry financial experts (mean: 0.117) had higher MJM values compared to those without (mean: 0.088), with a t-test p-value of 0.044, indicating statistical significance. The Mann-Whitney test reaffirms this difference with a p-value of 0.015. This suggests that firms benefitting from industry financial experts on their audit committees might exhibit a more conservative approach in financial reporting. In contrast, no significant differences are observed between firms with or without industry financial experts for *Audit_Fee*. Both the t-test and Mann-Whitney test yield p-values above 0.05, indicating no statistically significant variance.

Moving on to the remaining variables, there are no significant differences in *FEXP_Industry%, FEXP_Multi%, FEXP_Tenure%, FEXP_Share%, TA, MTB, ROA, Leverage, Debtors, Stok, AC_Size, AC_Tenure, and B_Meet,* between firms with or

without industry financial experts. The t-test and Mann-Whitney test confirm this lack of statistical significance. However, there are significant differences in *AC_Share%* and *Board_Ind%* between these two groups. Firms with industry financial experts have a notably higher *AC_Share%* (mean: 12.710) compared to those without (mean: 39.350), supported by both statistical tests with p-values of 0.003 and 0.007. Similarly, *Board_Ind%* is higher for firms with industry financial experts (mean: 81.070) than for those without (mean: 72.880), with p-values of 0.003 (Mann-Whitney) and 0.000 (t-test). Lastly, *Log_Subs* exhibits a significant difference between the two groups. Firms with industry financial experts have a higher in natural logarithm of the number of subsidiaries value (mean: 2.646) than those without (mean: 2.887), supported by both statistical tests with p-values of 0.006 (Mann-Whitney) and 0.013 (t-test).

5.6.3. Financial Experts with Multiple directorships

The univariate analysis presented in Column 1 of Panel B in Table 5.4 compares firms with and without financial experts who have multiple directorships (*Multi_FEXP*) on their audit committees. Based on the analysis results, 68 firms, accounting for 8% of the total sample, had financial experts on the audit committee holding outside seats, while 792 firms, constituting 92% of the total sample, did not have such experts among the ASX-listed firms throughout the study period (2016 – 2020). Starting with MJM, the mean for "*Multi FEXP = 0"* is 0.137, and the median is 0.065 while the mean for *"Multi_FEXP = 1"* is 0.107 and the median is 0.049. Thus, there is no significant difference in earnings management between the groups based on p-values of 0.399 (Mann-Whitney) and 0.203 (t-test). Both the t-test and Mann-Whitney test resulted in p-values greater than 0.05, indicating no significant variation in the absolute value of discretionary accruals between these two groups. Moving to *Audit_Fee*, a significant difference is evident. Firms with financial experts with multiple directorships (mean: 5.655) tend to have higher audit fees compared to those without (mean: 5.241). Both the t-test and Mann-Whitney test confirm this difference with p-values of 0.000.

Additionally, *FEXP_Female%* reveals a substantial difference between the two groups. Firms with multiple directorships (mean: 0.187) have a notably higher proportion of female financial expert directors compared to those without (mean: 0.041). This difference is statistically significant with p-values of 0.000. For *FEXP_Industry%,* there

is also a significant difference between the two groups. Firms with Multiple Directorships (mean: 0.362) have a higher proportion of financial expert directors with industry skills compared to those without (mean: 0.282). Both the t-test and Mann-Whitney test confirm this difference, with p-values of 0.073 (Mann-Whitney) and 0.027 (t-test). In terms of *FEXP_Tenure%*, there is a significant difference. Firms with financial experts who have multiple directorships (mean: 6.416) have lower tenure percentages compared to those without (mean: 7.961). Both statistical tests confirm this difference with p-values of 0.006 and 0.856. *FEXP_Share%* also exhibits a significant difference between the two groups. Firms with multiple directorships (mean: 17.580) have lower ownership percentages compared to those without (mean: 53.020). Both the t-test and Mann-Whitney test yield p-values of 0.000.

Regarding the control variables, it is noteworthy that *TA, ROA, Leverage, AC_Size, AC_Share%, B_Meet, Board_Ind%, Big4, Audit_SP,* and *Log_Subs* exhibit significant disparities between firms with and without financial experts serving in multiple directorship roles within the audit committee. This conclusion is drawn from both the t-test and Mann-Whitney test results, which consistently suggest statistically significant differences. In contrast, the t-test and Mann-Whitney test both yielded p-values exceeding 0.05 for the *MTB, Debtors, Stock, AC_Tenure,* and *Audit_SP* metrics. These findings collectively indicate the absence of statistically significant distinctions between the two groups in terms of these metrics. Therefore, it can be inferred that the presence of financial experts concurrently serving in multiple directorship roles does not wield a statistically significant impact on the *MTB, Debtors, Stock, AC_Tenure,* and *Audit_SP* metrics within these firms.

5.6.4. Financial Experts with Ownership

Column 2 of Panel B in Table 5.4 shows the univariate analysis results for firms with financial experts who hold shares. Out of the total sample, 35 firms (4%) had such experts, while 825 firms (96%) did not. The findings present a comprehensive analysis comparing firms with audit committee financial experts with ownership interests (*Share_FEXP = 1*) with those with no financial experts (*Share_FEXP = 0*), focusing on both the differences in mean (t-test) and median (Mann-Whitney test) values of various financial and governance metrics. First, the results show a noteworthy discrepancy

between mean and median values in the case of *MJM* (the absolute value of discretionary accruals). Firms with financial experts who own shares exhibit significantly lower mean *MJM* values (0.103) compared to those without ownership (0.257), as indicated by both the t-test and Mann-Whitney test (p-values: 0.000). The median values tell a similar story, with the ownership group having a lower *MJM* value (0.047) than the non-ownership group (0.180). This suggests that the presence of financial experts with ownership interests in the audit committee leads to more conservative financial reporting, as indicated by both central tendency measures.

A discrepancy between mean and median values also emerges in the case of *Audit_Fee*. Firms with financial experts who own shares have significantly higher mean *Audit_Fee* values (5.637) compared to those without ownership (5.275), supported by both statistical tests (p-values: 0.000). Interestingly, the median values tell a slightly different story, with the ownership group having a slightly lower median *Audit_Fee* (5.640) compared to the non-ownership group (5.204). This suggests that while the mean values are significantly different, the central tendency of *Audit_Fee* may not be as strongly impacted by the presence of financial experts with ownership interests.

The independent variables, *FEXP_Female%, FEXP_Multi%*, and *FEXP_Tenure%*, exhibit significant disparities between firms with and without financial experts *FEXP_Industry%* shows no significant differences in these variables, between the groups based on provided p-values. The control variables, *TA, MTB, AC_Tenure, AC_Share Audit_SP,* and *Log_Subs* show significant differences between the groups (indicated by p-values less than 0.05), while others do not.

In summary, Panels A and B of Table 5.4 provide a comprehensive overview of the diverse and statistically significant differences observed within and across sub-samples of financial experts attributed to specific characteristics. These findings shed light on the intricate interplay between financial expert characteristics and key financial variables. However, the presence of statistical significance does not necessarily imply a causal relationship. It indicates that there are observable differences between the two groups. Further analysis would be required to understand the underlying factors driving these differences and to establish any causal relationships.

5.7. Chapter Summary

This chapter has presented the descriptive statistics for the data examined in this study. A description of the sampling process and the industry breakdown was provided, followed by a discussion of the correlation and univariate analysis results.

In Chapter Six, the main empirical results are discussed. The chapter reports on the regression results and examines the impact of financial experts' personal characteristics (both in isolation and in combination) on discretionary accruals, using the modified Jones model followed by robustness tests. An analysis of firm-year observations from 2016 to 2020 is provided based on a sample of observations.

Chapter Six: Audit Committee Financial Experts' Personal Characteristics and Financial Reporting Quality: Results and Discussion

6.1. Chapter Overview

Chapter Five presented the descriptive statistics, correlation analysis and univariate analysis of this study. This chapter presents the main empirical results. First, the results of the regression analysis examining the impact of financial experts' attributes (in isolation and in combination) on discretionary accruals are reported and discussed. Second, the alternative earnings management and endogeneity tests that were used are discussed. Third, an analysis is provided of the sample partitioned by client size and signs of earnings management, with the main analysis re-estimated. The analysis covered a pooled sample of 860 observations for the years 2016 to 2020. Finally, a summary of the results is provided.

6.2. Regression Results

An analysis using multiple regression was considered appropriate for this study since the focus was on examining the effect of multivariate variables on earnings management. OLS regression served to model both dichotomous and continuous variables (Hutcheson & Sofroniou 1999). The following sub-sections present the results of multivariate analyses to test the impact of five pivotal financial expert characteristics (gender, industry skills, multiple directorships, tenure, and share ownership), in isolation and in combination, on earnings management. This was proxied by the absolute value of discretionary accruals (calculated using the modified Jones model for a pooled sample of firm-year observations across the observation window 2016 to 2020 (n = 860).

6.2.1. Impact of Audit Committee Financial Experts' Personal Characteristics on Earnings Managements using the Modified Jones Model

Models 1-7 shown in Table 6.1 provide the summarised results of seven regression models for the study variables, both in isolation and in combination. Model 1 represents the baseline, which tested the relationship between the control variables and absolute value of discretionary accruals using the modified Jones model for the pooled sample across the observation period (2016 to 2020). Models 2 to 6 tested the relationship between five individual characteristics for audit committee financial experts (gender

[FEXP_Female%], industry knowledge *[FEXP_Industry%]*, multi-directorships *[FEXP_Multi%]*, tenure *[FEXP_Tenure%],* and ownership *[FEXP_Share%]*) and the absolute value of discretionary accruals.

Model 7 represents the results of OLS regressions for all five personal characteristics of audit committee financial experts against discretionary accruals. Reasonable explanatory power in this study showed an adjusted R^2 of 25% to 26%, which is consistent with what other research examining discretionary accruals reported (Bhuiyan, Rahman & Sultana 2020; Ghafran, O'Sullivan & Yasmin 2022; Klein 2002; Singh et al. 2019). Each of the models shown in Table 6.1 indicated significant F-statistics at the 1% level, indicating they were statistically valid. Since the maximum VIF of the variables in the study was less than 2.00, it is unlikely that multicollinearity manipulated the regression results. Overall, the models exhibited a high p-value at the 0.01 level of significance. The coefficients for industry and year dummy variables were omitted for brevity. When comparing the main study variables and control variables reported in Models 1 to 6 with those reported in Model 7, no meaningful difference between the results was evident. The following hypotheses were tested in the regression analysis:

H1. There is a negative association between the ratio of female financial experts on an audit committee and financial reporting quality.

H2. There is a negative relationship between the ratio of audit committee financial experts with industry experience and financial reporting quality.

H3. There is a negative relationship between audit committee financial experts who hold multiple directorships and financial reporting quality.

H4. There is a negative relationship between audit committee financial experts' tenure and financial reporting quality.

H5. There is a negative relationship between audit committee financial experts' ownership and financial reporting quality.

The regression results presented in Model 7 depict the outcomes of OLS regression using the main independent variable (*FEXP_Female%*) as an explanatory variable when analysing the variation of absolute discretionary accruals. Consistent with the findings documented in Table 6.1, the coefficient on *FEXP_Female%* (the independent variable)

was reported to be positive and statistically non-significant. This result aligns with the findings of Carter et al. (2010) and Sun, Liu and Lan (2011), who detected no effect of audit committee gender diversity on earnings management. This suggests that, in the ASX context, female outside directors on an audit committee do not differ from their male counterparts in terms of their governance quality in any significant way. However, this finding is inconsistent with the conclusions reached by Zalata, Tauringana and Tingbani (2018) and Thiruvadi and Huang (2011) in the US, and Gull et al. (2018) in France. These inconsistent results could be caused by the sample, study period and measurement used for female financial experts on audit committees, which may differ from those used by other researchers. The inconsistency may also be linked to the nature of the cross-sectional models used in prior studies. Another explanation might be that female and male audit committee directors hold the same ethical beliefs about earnings management in ASX-listed firms. Consequently, no relationship was found between audit committee financial experts' gender and earnings management. So, hypothesis H1 was not supported.

Model 7 in Table 6.1 shows the results for the measure of audit committee financial experts with industry knowledge *(FEXP_Industry%)* as an explanatory variable to investigate the variation of the absolute value of discretionary accruals. The results indicate that the coefficient on *FEXP_Industry%* (the independent variable) was positive and statistically insignificant. This finding is inconsistent with the research conducted by Wang, Xie and Zhu (2015), who noted a relationship between audit committees with industry expertise and low levels of earnings management in the US. Furthermore, the results are inconsistent with Cohen et al. (2014), who noted that industry experience on audit committees was associated with less financial restatement. The study's finding suggests the possibility of a positive relationship between *FEXP_Industry%* and discretionary accruals. However, this relationship does not exhibit sufficient strength to attain statistical significance. Consequently, it appears that financial experts with industry knowledge may not be a significant determinant of discretionary accruals. Given the lack of statistical significance in the coefficient on *FEXP_Industry%*, these findings do not offer support for hypothesis H2.

Model 7 in Table 6.1 also shows the multiple regression analysis, indicating that the audit committee financial experts' multiple directorships measure *(FEXP_Multi%)*

was negative and statistically insignificant. This finding is contrary to that of Dhaliwal, Naiker and Navissi (2010), which indicated that earnings quality related to accounting experts who held few directorships. The reason for this difference can be linked to the difference in contextual factors between Australia and the US, as well as the nature of the cross-sectional model or variable measures used by Dhaliwal, Naiker and Navissi (2010). This study used the ratio of outside seats held by all audit committee financial experts (accounting and non-accounting) while Dhaliwal, Naiker and Navissi (2010) focused on measuring only accounting financial experts. The study finding is inconsistent with the findings of Tham et al. (2019), who reported that audit committee members who held multiple directorships were linked to lower earnings management in Australia. The reason for this inconsistency may be due to one potential measurement problem in this current study, which used only the percentage of audit committee financial experts' outside directorships rather than dividing them into levels such as high and low. Since the coefficient on *FEXP_Multi%* was statistically insignificant, the results do not support hypothesis H3.

The tenure of audit committee financial experts, measured as *(FEXP_Tenure%*), serves as an explanatory variable for evaluating the extent of variation in the absolute value of discretionary accruals. Consistent with the findings documented in Table 6.1, the coefficient on *FEXP_Tenure%* (the independent variable) was positive and statistically insignificant. Empirically, this finding is consistent with Sun, Lan and Liu (2014) and Garven (2015), who discovered no significant relationship between audit committee tenure and real earnings management. However, the result does contrast with other literature that noted that average length of audit committee tenure constrains earnings management (Bédard, Chtourou & Courteau 2004; Dhaliwal, Naiker & Navissi 2010; Yang & Krishnan 2005). Differences in results between this study and Dhaliwal, Naiker and Navissi (2010) may be due to differences in litigation/judicial systems between the US and Australia, which arguably keep US members more aligned in comparison. As a result of the current differing requirements between independent key audit partners and audit committee members, regulators should be consistent in what is they require of members for maintaining independence. Another reason for the difference in findings is that the financial experts on audit committees may not be effective in preventing earnings management, regardless of their tenure. Committee members may have long tenure but

they may lack the expertise, experience and resources to detect and prevent earnings management. Also, the study finding does contrast with Sharma and Iselin (2012), who detected a significant positive association between the tenure of independent audit committee members and financial misstatements, suggesting that directors with longer tenure may not exercise independent judgement. Based on this assumption, hypothesis H4 was not confirmed.

The measure of financial experts' share ownership *(FEXP_Share%)* is an explanatory variable in analysing the variation of absolute value of discretionary accruals. Consistent with the findings documented in Model 7 of Table 6.1, the coefficient on *FEXP_Share%* (the independent variable) emerged as negative and statistically significant ($\beta = -1.718$, $p < 0.01$). Reported evidence, therefore, suggests that audit committee financial experts' ownership has a favourable effect on financial reporting quality in Australia. The interests of other shareholders might be prioritised more often by financial experts with a larger ownership stake than those of management or the board of directors. They might then take a more active role in monitoring and overseeing financial reporting quality and inhabiting earnings management practices to protect shareholders' interests (DeZoort et al. 2002). This result compares well with previous studies that came to the same conclusion (Bhuiyan & Mabel 2020; Dhaliwal, Naiker & Navissi 2010; Sharma & Kuang 2014; Sun, Lan & Liu 2014). Furthermore, this finding supports the incentive-alignment view, which indicates that significant share ownership makes audit committee members more likely to act in shareholders' interests (MacGregor 2012), and enhanced earnings quality (Vafeas 2005). However, this result does not agree with the work of Sharma and Kuang (2014) in the New Zealand context, which argued that stock ownership by non-executive and executive directors on the audit committee increased earnings management risk. Also, this study result differs from other research that found no evidence that audit committee share ownership was associated with earnings management (Garven 2015; Ghosh, Marra & Moon 2010).

In general, the study's conclusion supports agency theory. Directors' motives to monitor financial reporting processes are affected by their stock ownership. Financial experts with larger stock ownership stakes align their interests with those of other shareholders. They may well act as 'monitoring agents', overseeing management actions to ensure they are meeting shareholders' interests (Fama & Jensen 1983). According to

Jensen and Meckling (1976) and Shivdasani (1993), directors who have an equity stake in a firm are more concerned with the firm's governance, challenge or discipline management for poor financial reporting, and encourage better disclosure in the financial reporting of the firm. As a result, stock ownership aligns directors' interests with those of stockholders. Agency theory also explains this result, arguing that financial experts with larger stakes in the firm are more motivated to protect the value of their own investments (Cremers et al. 2009). They may take a more critical and sceptical approach to financial reporting and earnings management practices, in order to identify and address suspicious or questionable behaviour. Thus, audit committee financial experts' ownership of company stock may improve earnings quality. This supports hypothesis H5.

In terms of the control variables shown in Model 7 in Table 6.1, there was a negative and significant coefficient of client firm size (TA) (β = -0.0512, < p 0.01). This finding aligns with previous Australian and US research (Fargher, Lee & Mande 2008; Krishnan, Su & Zhang 2011), suggesting that smaller firms are more likely to manage earnings. The coefficient on client performance (ROA) was also reported to be negative and significant at the one percent level, which is consistent with the findings of Hua-Wei, Raghunandan and Rama (2009) in the Australian context. This suggests that earnings management practices are more effective for Australian listed firms that make less profit. The audit committee shares (*AC_Share%*) were found to be positive and significantly related to the absolute value of discretionary accruals. These results align with those of previous scholars who came to the same conclusion (Cullinan, Du & Jiang 2010; Liu, Lobo & Yu 2021; Sharma & Kuang 2014; Yang & Krishnan 2005).

The other control variables in the study, namely, market-to-book ratio (MTB), leverage (*Leverage*), audit committee tenure (*AC_Tenure*), board meeting (*B_Meet*), board independence (*Board_Ind%*), auditor brand (*Big4*), and auditor specialisation (*Audit_SP*), were not found to have statistically significant relationships with the absolute value of discretionary accruals. The regression model included the year (*Year effect*) and industry (*Industry effect*) dummies to control for industry effects and temporal differences of firm-year observations.

Overall, the results from Models 2 to 7 confirmed hypothesis H5 by demonstrating that out of the five variables selected (*FEXP_Female%, FEXP_Industry%,*

FEXP_Multi%, FEXP_Tenure% and *FEXP_Share%*), the only measure of financial experts' personal characteristics that was shown to be significantly shape (constrain) earnings management practices, both in isolation and in combination, was *FEXP_Share%*.

Table 6.1 OLS Regression Results—Impact of Audit Committee Financial Experts' Personal Characteristics on the Absolute Value of Discretionary Accruals Calculated Using the Modified Jones Model

Variables	Expected sign	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)
Constant		0.442***	0.453***	0.436***	0.444***	0.444***	0.458***	0.470***
	-	(6.533)	(6.614)	(6.315)	(6.547)	(6.548)	(6.702)	(6.621)
FEXP_Female%			0.0360					0.0324
			(1.031)					(0.922)
FEXP_Industry%	-			0.0122				0.00597
				(0.497)				(0.241)
FEXP_Multi%	-				-0.00260			-0.00283
					(-0.557)			(-0.598)
FEXP_Tenure%	-					0.000937		0.00149
						(0.514)		(0.798)
FEXP_Share%	-						-0.000160	-0.000173*
							(-1.631)	(-1.718)
TA	-	-0.0478***	-0.0504***	-0.0480***	-0.0471***	-0.0476***	-0.0498***	-0.0512***
		(-4.509)	(-4.625)	(-4.520)	(-4.402)	(-4.478)	(-4.670)	(-4.639)
MTB	+	0.00195	0.00181	0.00189	0.00204	0.00194	0.00188	0.00181
		(1.207)	(1.120)	(1.166)	(1.256)	(1.202)	(1.163)	(1.105)
ROA	-	-0.182***	-0.182***	-0.182***	-0.182***	-0.182***	-0.183***	-0.183***
		(-14.60)	(-14.61)	(-14.60)	(-14.59)	(-14.59)	(-14.69)	(-14.67)
Leverage	-	0.00147	0.00145	0.00149	0.00150	0.00147	0.00154	0.00159
		(0.690)	(0.684)	(0.702)	(0.706)	(0.692)	(0.723)	(0.745)
AC_Size	?	0.0144	0.0141	0.0151*	0.0148*	0.0160*	0.0142	0.0172*
		(1.629)	(1.593)	(1.683)	(1.662)	(1.706)	(1.607)	(1.811)
AC_Tenure	-	-0.0293**	-0.0283**	-0.0290**	-0.0299**	-0.0345**	-0.0276**	-0.0353**
		(-2.518)	(-2.417)	(-2.488)	(-2.554)	(-2.234)	(-2.368)	(-2.274)
AC_Share%	-	0.000531***	0.000540***	0.000536***	0.000526***	0.000530***	0.000558***	0.000564***
		(5.485)	(5.553)	(5.504)	(5.403)	(5.476)	(5.688)	(5.677)
B_Meet	-	0.000740	0.000656	0.000754	0.000785	0.000730	0.000635	0.000594
		(0.500)	(0.443)	(0.509)	(0.530)	(0.494)	(0.430)	(0.400)
Board_Ind%	-	0.000286	0.000269	0.000278	0.000295	0.000284	0.000211	0.000193
		(1.006)	(0.947)	(0.978)	(1.036)	(0.999)	(0.733)	(0.668)
Big4	-	-0.00977	-0.0112	-0.0100	-0.00880	-0.00983	-0.00903	-0.00945
		(-0.498)	(-0.571)	(-0.510)	(-0.447)	(-0.501)	(-0.461)	(-0.478)
Audit_SP	-	0.0248	0.0247	0.0251	0.0241	0.0247	0.0230	0.0220

Variables	Expected sign	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)
		(1.505)	(1.496)	(1.520)	(1.456)	(1.499)	(1.395)	(1.324)
Year effect	*?*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*
Industry effect	*?*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*
Observations		860	860	860	860	860	860	860
Adjusted R^2		0.260	0.260	0.259	0.259	0.259	0.261	0.259
F test		14.10	13.56	13.51	13.52	13.51	13.65	11.75
Prob>F		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mean VIF		1.70	1.70	1.70	1.70	1.78	1.70	1.75

Notes: t-statistics are in parentheses. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

Model 1 is based on Equation (7), Model 2 is based on Equation (8), Model 3 is based on Equation (9), Model 4 is based on Equation (10), Model 5 is based on Equation (11), Model 6 is based on Equation (12), and Model 7 is based on Equation (13), as follows:

$$MJM_{it} = \beta_0 + \beta_1 TA_{it} + \beta_2 MTB_{it} + B_3 ROA_{it} + \beta_4 Leverage_{it} + \beta_5 ACsize\%_{it} + \beta_6 AC\_Tenure_{it} + \beta_7\ AC\_Share\%_{it} + \beta_8 B\_Meet_{it\,it} + \beta_9 Board\_Ind\%_{it} + \beta_{10} Big4_{it} + \beta_{11} Audit\_SP_{it} + \beta_{12} Year_{it} + \beta_{13} Industry_{it} + \varepsilon_{it} \quad (7)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} + \beta_5 Leverage_{it} + \beta_6 ACsize\%_{it} + \beta_7 AC\_Tenure_{it} + \beta_8\ AC\_Share\%_{it} + \beta_9 B\_Meet_{it\,it} + \beta_{10} Board\_Ind\%_{it} + \beta_{11} Big4_{it} + \beta_{12} Audit\_SP_{it} + \beta_{13} Year_{it} + \beta_{14} Industry_{it} + \varepsilon_{it} \quad (8)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Industry\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} + \beta_5 Leverage_{it} + \beta_6 ACsize\%_{it} + \beta_7 AC\_Tenure_{it} + \beta_8\ AC\_Share\%_{it} + \beta_9 B\_Meet_{it\,it} + \beta_{10} Board\_Ind\%_{it} + \beta_{11} Big4_{it} + \beta_{12} Audit\_SP_{it} + \beta_{13} Year_{it} + \beta_{14} Industry_{it} + \varepsilon_{it} \quad (9)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Multi\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} + \beta_5 Leverage_{it} + \beta_6 ACsize\%_{it} + \beta_7 AC\_Tenure_{it} + \beta_8\ AC\_Share\%_{it} + \beta_9 B\_Meet_{it\,it} + \beta_{10} Board\_Ind\%_{it} + \beta_{11} Big4_{it} + \beta_{12} Audit\_SP_{it} + \beta_{13} Year_{it} + \beta_{14} Industry_{it} + \varepsilon_{it} \quad (10)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Tenure\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} + \beta_5 Leverage_{it} + \beta_6 ACsize\%_{it} + \beta_7 AC\_Tenure_{it} + \beta_8\ AC\_Share\%_{it} + \beta_9 B\_Meet_{it\,it} + \beta_{10} Board\_Ind\%_{it} + \beta_{11} Big4_{it} + \beta_{12} Audit\_SP_{it} + \beta_{13} Year_{it} + \beta_{14} Industry_{it} + \varepsilon_{it} \quad (11)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Share\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} + \beta_5 Leverage_{it} + \beta_6 ACsize\%_{it} + \beta_7 AC\_Tenure_{it} + \beta_8\ AC\_Share\%_{it} + \beta_9 B\_Meet_{it\,it} + \beta_{10} Board\_Ind\%_{it} + \beta_{11} Big4_{it} + \beta_{12} Audit\_SP_{it} + \beta_{13} Year_{it} + \beta_{14} Industry_{it} + \varepsilon_{it} \quad (12)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5\ FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} AC\_Size\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12}\ AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (13)$$

Where: MJM_{it}= Absolute value of discretionary accruals of firm *i* for time *t* calculated using the cross-sectional version of the modified Jones model introduced by Dechow, Sloan, and Sweeney (1995); *FEXP_Female%* = Proportion of female financial expert directors to the total number of audit committee members; *FEXP_Industry%* = Proportion of financial expert directors with industry skills to the total number of audit committee members; *FEXP_Multi%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Tenure%* = proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%*= Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); *TA*= natural logarithm of total assets; *MTB* = Proportion of market value of equity to book value of equity; *ROA*= Return on assets (net income/total assets); *Leverage* = Total liabilities divided by total assets; *AC_Size* = Number of audit committee members; AC_Tenure_{it}= Natural logarithm of audit committee tenure (excluding the tenure of financial experts); *AC_Share*= Total of shares owned by audit committee members to total of outstanding shares (without shares owned by audit committee financial experts); *B_Meet* = Number of board meetings; *Board_Ind%* = Ratio of board independence; *Big4* = Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; *Audit_SP* = Use dummy variable 1, otherwise 0.

6.3. Additional Analysis and Robustness Checks

Several additional analyses were conducted in this study. The following sub-sections outline the robustness analyses and additional checks that were conducted to improve the validity of the generated results. The study also used tools to mitigate endogeneity bias between the financial expert directors' characteristics and earnings management. The sample was partitioned by client characteristics and earnings management and the main analysis was performed again.

6.3.1. Performance Adjusted Model Devised by Kothari, Leone and Wasley (2005)

In the primary analysis documented in the previous section, the study relied on discretionary accruals measured using the modified Jones model (Das, Mishra & Rajib 2018). For an alternative test, the study used the performance adjusted model developed by Kothari, Leone and Wasley (2005) to measure the level of discretionary accruals. According to the performance adjusted model, discretionary accruals were calculated by matching the firm-year observations of the treatment firm with the firm-year observations of the control firm in the same industry and year with the closest ROA in either the current or prior year. In the second step of the process, the modified Jones model discretionary accruals of the control firm were subtracted from the treatment firm's discretionary accruals. Kothari argued that accruals can be affected by financial performance. Consequently, the model adds the lagged value of ROA to the modified Jones model to increase the estimation power of discretionary accruals and diminish the misspecification of measurement. The first step was to capture *NDA* using the following regression model:

$$NDA_{it} = \beta_1 \left(\frac{1}{AT_{it-1}}\right) + \beta_2 \left(\Delta REV_{it} - \Delta AR_{it}/AT_{it-1}\right) + \beta_3 \frac{PPE_{it}}{AT_{it-1}} + ROA_{it-1} + \varepsilon_{it} \quad (14)$$

Where NDA_{it} = non-discretionary accruals; AT_{it-1} = average of total assets (beginning and ending asset balances) for company *i* at the end of year *t*−1; ΔREV_{it}= the difference in net revenues in year *t* from year *t*−1; ΔAR_{it}= the difference in net receivables in year *t* from year *t*−1; *PPE* = gross property, plant, and equipment for company *i* at year *t*; ROA_{it-1}= return on assets in year *t* from year *t*−1; β_1, β_2 and β_3 are predicted coefficients from equation: ε_{it} = an error term that represents the discretionary accruals of firm *i* for time period *t*.

The non-discretionary portion of total accruals serves to capture earnings management (Jones 1991). The model indicates that earnings management is high when the value of discretionary accruals is also high (Inaam & Khamoussi 2016).

Model 1 in Table 6.2 documents the results of OLS regression, with all five financial expert characteristic measures (*FEXP_Female%, FEXP_Industry%, FEXP_Multi%, FEXP_Tenure%* and *FEXP_Share%*) used as explanatory variables in analysing the variation in the absolute value of discretionary accruals. The analysis was conducted using the performance adjusted model for the pooled sample across the observation window, 2016 to 2020. Consistent with the main analysis results shown in Table 6.1, the coefficient on *FEXP_Share%* remained negative and statistically significant. Also consistent with these outcomes, the coefficients on *FEXP_Industry%, FEXP_Female%, FEXP_Multi%,* and *FEXP_Tenure%* were statistically insignificant. A review of Model 6 indicates that the control variables, specifically firm size (*TA*), firm performance (*ROA*), and audit committee ownership (*AC_Share%*), remained positive and significant predictors of the absolute value of discretionary accruals. The F-statistic continued to be significant at the 1% level. The goodness-of-fit (that is, adjusted R^2) improved marginally by 1%. Specifically, the adjusted R^2 in Model 1 was 0.29, suggesting that the variables in the regression model explained 29% of the variation in the dependent variable (the absolute value of discretionary accruals).

Table 6.2 Alternative Measures and Robustness check for Impact of Audit Committee Financial Experts' Personal Characteristics on the Absolute Value of Discretionary Accruals

Variables	Model (1)	Model (2)	Model (3)
	Kothari	**Huber/White standard error**	**Hausman test**
Constant	0.527***	0.364***	0.482***
	(7.620)	(4.647)	(6.605)
FEXP_Female%	0.0287	0.00953	0.0543
	(0.839)	(0.258)	(1.048)
FEXP_Industry%	0.0142	0.000176	-0.00271
	(0.587)	(0.00869)	(-0.107)
FEXP_Multi%	-0.00187	0.000308	-0.00468
	(-0.405)	(0.0926)	(-0.973)
FEXP_Tenure%	0.00155	0.00171	0.00124
	(0.850)	(1.287)	(0.651)
FEXP_Share%	-0.000213**	-0.000238*	-0.000314*
	(-2.173)	(-1.837)	(-1.948)
TA	-0.0601***	-0.0369***	-0.0497***
	(-5.599)	(-3.838)	(-4.343)
MTB	0.00247	0.00230	0.00216
	(1.555)	(1.167)	(1.293)
ROA	-0.185***	-0.296**	-0.162***
	(-15.22)	(-2.093)	(-13.45)
Leverage	0.00145	0.000509	0.00161
	(0.698)	(0.343)	(0.746)
AC_Size	0.0184**	0.00595	0.0185*
	(1.996)	(0.889)	(1.892)
AC_Tenure	-0.0387**	-0.0152	-0.0296*
	(-2.559)	(-1.459)	(-1.863)
AC_Share%	0.000544***	6.81e-05**	0.00198*
	(5.625)	(2.075)	(1.831)
B_Meet	0.000366	0.00127	0.000243
	(0.253)	(1.126)	(0.160)
Board_Ind%	0.000172	1.45e-05	8.39e-05
	(0.611)	(0.0723)	(0.284)
Big4	-0.000704	-0.0208	-0.0218
	(-0.0366)	(-1.228)	(-1.079)
Audit_SP	0.0180	0.00869	0.0269
	(1.116)	(0.850)	(1.591)
Residual	-	-	-0.0599
			(-0.832)
Robust	-	Yes	-
Year effect	*Included*	*Included*	*Included*
Industry effect	*Included*	*Included*	*Included*
Observations	860	860	860
Adjusted R^2	0.290	0.388	0.234
F test	13.52	4.392	10.03
Prob>F	0.0000	0.0000	0.0000
Mean VIF	1.75	1.77	2.00

Notes: t-statistics are in parentheses. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

Model 1 is based on Equation (15), Model 2 is based on Equation (16), and Model 3 is based on Equation (17), as follows:

$$Kothari_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} ACsize\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (15)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} ACsize\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (16)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} ACsize\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \beta_{19} Residual + \varepsilon_{it} \quad (17)$$

Where*:* $Kothari_{it}$= Absolute value of discretionary accruals of firm *i* for time *t* calculated using the performance adjusted model introduced by Kothari, Leone, and Wasley (2005); MJM_{it}= Absolute value of discretionary accruals of firm *i* for time *t* calculated using the cross-sectional version of the modified Jones model introduced by Dechow, Sloan, and Sweeney (1995)*; FEXP_Female%* = Proportion of female financial expert directors to the total number of audit committee members*; FEXP_Industry%* = Proportion of financial expert directors with industry skills to the total number of audit committee members*; FEXP_Multi%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members*; FEXP_Tenure%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%* = Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); *TA* = Natural logarithm of total assets; *MTB* = Proportion of market value of equity to book value of equity*; ROA*= Return on assets (net income/total assets); *Leverage*= Total liabilities divided by total assets; *AC_Size* = Number of audit committee members;AC_Tenure_{it}= Natural logarithm of audit committee tenure (excluding the tenure of financial experts)*; AC_Share* = Total of shares owned by audit committee members to total of outstanding shares (without shares owned by audit committee financial experts); *B_Meet*= Number of board meetings; *Board_Ind%* = Ratio of board independence; *Big4*= Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; *Audit_SP* = Use dummy variable 1, otherwise 0.

6.3.2. Endogeneity

Although the study's findings were robust to alternative financial reporting quality proxies, endogeneity bias was still possible. Consequently, multiple robustness tests were conducted, specifically the Huber-White sandwich estimator, Hausman, and firm fixed-effect tests were conducted to mitigate endogenous concerns.

6.3.2.1. Huber-White Standard Error

In the presence of heteroscedasticity, a robust standard error method using Huber-White's sandwich estimator, as described in Diggle et al. (2002), can provide a reliable solution. The use of a Huber-White standard error was considered necessary in this study

to overcome the potential serial correlation and misspecifications in pooled cross-sectional regression tests across the sample firms. Employing Huber-White standard errors as an additional analysis enhanced the robustness of the results. Therefore, the main analysis was re-tested to adjust for the heteroscedasticity problem. As shown in Model 2 of Table 6.2, the value of the tested models was significant at the 0.1% level (Prob>F = 0.000). In general, Huber-White's sandwich estimator produced qualitatively similar results to the primary analysis (see Model 7 of Table 6.1).

6.3.2.2. Hausman Test

It was possible that endogenous (or simultaneity) factors may have determined the relationship between the audit committee financial experts' characteristics and the absolute discretionary accrual in this study. Therefore, the independent variables might also have correlated with the error term of the absolute discretionary accrual. In order to address this possible endogeneity issue, this study applied the Hausman test as recommended by Gujarati (2003). Application of this test is an established practice and methodology employed by other researchers in this field (Alkebsee et al. 2022; Engel, Hayes & Wang 2010). The first step was to extract the error term (residual) from the model, including all independent and control variables. Second, regressing the main model, including the extracted residual, was done to determine its significance level. In the absence of endogeneity, the coefficient of the error term should not differ significantly from zero (Gujarati 2003). Hausman's test (un-tabulated) revealed that the coefficient of the estimated residual was non-significant, indicating that endogeneity was not an issue (see Model 3 in Table 6.2).

6.3.3. Partitioning of the Sample by Firm Size

In the previous literature on earnings management, it has been argued that it is important to account for differences in client firm size (Gul, Jaggi & Krishnan 2007; Krishnan 2003; Sharma & Kuang 2014). The sample in this study was divided into large and small client firms, based the median of total assets as the cut-off. This ensured that the results on the were not influenced by differences in client firm size. All multivariate tests shown in Table 6.1 were repeated.

Models 1 and 2 in Table 6.3 show that for large clients, the coefficient on *FEXP_Share%* was negative and statistically significant ($p<0.01$), while for small

clients, the coefficients on *FEXP_Share%* were negative and statistically insignificant. These findings suggest that financial experts who hold a significant share in larger firms are more inclined to prioritise the protection of their professional reputation and align their interests with those of other shareholders. This outcome aligns with the findings of Sharma and Kuang (2014), who also observed that independent directors who own shares tend to exhibit a more conservative approach in larger firms compared to smaller ones. The explanatory power of the regressions (see adjusted R^2) reported in Model 1 (a subsample of large firms) and Model 2 (a subsample of small firms) of Table 6.3 was 23.3% versus 5.6%. Overall, the additional test results reported in Model 1 in Table 6.3 support the main results reported in Table 6.1.

Table 6.3 Regression Results Partitioning Sample Based on Client Firm Size and Signed Discretionary Accruals

Variables	Client Firm Size		Signed discretionary accruals	
	Model (1) Large firms	Model (2) Small firms	Model (3) Negative earnings management	Model (4) Positive earnings management
Constant	0.710***	0.285***	-0.140	0.479***
	(3.874)	(2.971)	(-1.202)	(10.05)
FEXP_Female%	0.0394	-0.00330	-0.0360	0.0381
	(0.477)	(-0.136)	(-0.706)	(1.535)
FEXP_Industry%	-0.0279	0.0165	-0.0422	0.0341**
	(-0.568)	(0.828)	(-1.117)	(2.007)
FEXP_Multi%	-0.0106	-0.00231	-0.00185	-0.00235
	(-1.017)	(-0.696)	(-0.285)	(-0.666)
FEXP_Tenure%	0.00231	-0.00215	0.00428	0.00150
	(0.763)	(-1.083)	(1.274)	(1.276)
FEXP_Share%	-0.000697**	-5.06e-05	-0.000891***	-1.25e-09
	(-2.346)	(-0.263)	(-3.037)	(-0.769)
TA	-0.0835**	-0.0259*	0.0161	-0.0513***
	(-2.411)	(-1.903)	(0.901)	(-6.906)
MTB	0.00336	-0.00166	0.00513*	0.000362
	(1.270)	(-0.790)	(1.892)	(0.334)
ROA	-0.170***	0.0333	-0.508***	0.0347***
	(-10.18)	(0.900)	(-27.22)	(4.169)
Leverage	0.00238	0.00110	0.000201	-4.38e-05
	(0.726)	(0.465)	(0.0899)	(-0.0173)
AC_Size	0.0265	-0.00169	0.00463	0.00956
	(1.266)	(-0.252)	(0.323)	(1.436)
AC_Tenure	-0.0362	-0.00567	-0.0422*	-0.0146
	(-1.266)	(-0.446)	(-1.650)	(-1.459)
AC_Share%	0.00453**	0.000109	0.00485***	-0.000284
	(2.142)	(0.125)	(2.594)	(-0.622)
B_Meet	2.08e-05	0.00178	0.00285	0.000231
	(0.00708)	(1.582)	(1.464)	(0.198)
Board_Ind%	-0.000273	-9.27e-06	0.00101**	-0.000407**
	(-0.483)	(-0.0376)	(2.274)	(-2.067)
Big4	-0.0110	-0.0203	0.0778**	-0.0324**
	(-0.318)	(-0.857)	(2.275)	(-2.536)
Audit_SP	0.0391	0.00156	-0.0254	0.0200*
	(1.053)	(0.128)	(-0.994)	(1.732)
Year effect	*Included*	*Included*	*Included*	*Included*
Industry effect	*Included*	*Included*	*Included*	*Included*
Observations	430	430	330	530
Adjusted R^2	0.233	0.0560	0.714	0.245
F test	5.650	1.909	30.31	7.126
Prob>F	0.0000	0.00000	0.0000	0.0000

Notes: t-statistics are in parentheses. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively.

Model 1 and Model 2 are based on Equations (19) and (20), respectively, which are written as follows:

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} AC\_Size\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (18)$$

$$MJM_{it} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} AC\_Size\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (19)$$

Model 3 and Model 4 are based on Equations (21) and (22), respectively:

$$MJM_{it}^{-} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} AC\_Size\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (20)$$

$$MJM_{it}^{+} = \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} AC\_Size\%_{it} + \beta_{11} AC\_Tenure_{it} + \beta_{12} AC\_Share\%_{it} + \beta_{13} B\_Meet_{it} + \beta_{14} Board\_Ind\%_{it} + \beta_{15} Big4_{it} + \beta_{16} Audit\_SP_{it} + \beta_{17} Year_{it} + \beta_{18} Industry_{it} + \varepsilon_{it} \quad (21)$$

Where*:* MJM_{it}= Absolute value of discretionary accruals of firm i for time t calculated using the cross-sectional version of the modified Jones model introduced by Dechow, Sloan, and Sweeney (1995)*; FEXP_Female%*= Proportion of female financial expert directors to the total number of audit committee members*; FEXP_Industry%* = Proportion of financial expert directors with industry skills to the total number of audit committee members*; FEXP_Multi%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members*; FEXP_Tenure%* = Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%* = Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); *TA* = Natural logarithm of total assets; *MTB*= Proportion of market value of equity to book value of equity*; ROA* = Return on assets (net income/total assets); *Leverage*= Total liabilities divided by total assets; $AC\_Industry\%_{it}$= Proportion of audit committees with industry expertise (excluding the financial experts with industry knowledge); $AC\_Multi\%_{it}$= Proportion of audit committee members serving on at least three other companies' board seats (excluding the outside seats of financial experts); *AC_Size* = Number of audit committee members; AC_Tenure_{it}= Natural logarithm of audit committee tenure (excluding the tenure of financial experts)*; AC_Share*= Total of shares owned by audit committee members to total of outstanding shares (without shares owned by audit committee financial experts); *B_Meet* = Number of board meetings; *Board_Ind%*= Ratio of board independence*; Big4*= Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; *Audit_SP* = Use dummy variable 1, otherwise 0.

6.3.4. Partitioning of the Sample by Signed Discretionary Accruals

This study used discretionary accruals as a measure of earnings management. This takes into account both income-increasing and income-decreasing earnings management decisions (Becker et al. 1998; Frankel, Johnson & Nelson 2002; Myers, Myers & Omer 2003; Reynolds & Francis 2000; Warfield, Wild & Wild 1995). Ashbaugh, LaFond and Mayhew (2003) argued that income-increasing discretionary accruals are more frequent and of greater concern to audit committee financial experts

since earnings overstatements tend to be associated with aggressive and opportunistic earnings management. Conversely, income-decreasing discretionary accruals for the downward adjustment of reported earnings can be considered opportunistic as well as conservative (Ashbaugh, LaFond & Mayhew 2003). Francis, Maydew and Sparks (1999) argued that the directional effect of an accrual matters less than the existence of one since income could be increased either by overstating a positive (income-increasing) accrual or by understating a negative (income-decreasing) accrual. Therefore, this study examined the effect of audit committee financial experts' characteristics on earnings management practices with respect to observations with positive or income-increasing discretionary accruals and negative or income-decreasing discretionary accruals. Models 3 and 4 in Table 6.3 show the results of regressions using income-increasing and income-decreasing discretionary accruals within the modified Jones model.

The findings in Table 6.3 under Model 3 provide evidence that the proportion of ownership for financial experts on the audit committee (*FEXP_Share%*) was associated with conservative and income-decreasing financial reporting. *FEXP_Share%* is likely to be more conservative and associated with income-decreasing earnings management. Since these accruals had a negative sign, this outcome indicates stronger accounting conservatism and, as a result, superior financial reporting quality. On the other hand, the results for the subsample of income-increasing discretionary accruals, reported in Table 6.3 under Model 4, show that one of the coefficients on the personal characteristics of financial experts (*FEXP_Industry%)* attained statistically significance.

Model 3 of Table 6.3 (subsampling income-decreasing firms) has a higher explanatory power (adjusted R^2) (71.4%) than Model 7 of Table 6.1 (25.9%). In contrast, the explanatory power of the regression (see adjusted R^2) reported in Table 6.3 under Model 4 (a subsample of firms with income-increasing discretionary accruals) was lower (that is, 24.5% versus 25.9%). Overall, the additional tests reported in Table 6.3 suggest that financial experts with industry knowledge and high levels of ownership were more effective in constraining the income-decreasing type of earnings management. This finding can be explained with reference to the previous literature, which suggests that it is more likely that companies will conduct income-decreasing earnings management when they are larger (Watts & Zimmerman 1990). According to Aini, Hamid and Jenny (2006), the larger the firm, the more likely it will act to avoid

political costs by choosing income-decreasing accounting accruals.

6.3.5. Key Findings from the Alternative Tests and Robustness Checks

The key findings from the alternative measures and sensitivity tests shown in Table 6.2 and Table 6.3 can be summarised as follows. First, consistent with the main findings, firms that employ audit committee financial experts with high levels of ownership are more effective in combating earnings management. Second, a number of sensitivity analyses were conducted to ensure that the main regression results were robust to different estimators (the Huber-White standard error and Hausman test). Third, compared to smaller firms, larger firms engage in earnings management, and this is consistent with the literature. Fourth and finally, a separate test of observations with income-increasing and income-decreasing discretionary accruals suggested that financial experts with high levels of ownership are more effective in constraining income-decreasing earnings management. The findings from the alternative tests and robustness check, as reported in Table 6.2 and Table 6.3, fully support hypothesis H5 but fail to support hypotheses H1, H2, H3 and H4. Based on these outcomes, the main results shown in Table 6.1 were fully supported.

6.4. Chapter Summary

This chapter has presented the empirical results that were used to determine the impact of audit committee financial experts' personal characteristics on earnings management, using the modified Jones model. Initially, regression analysis examined the relationship between five financial expert personal characteristics (both in isolation and in combination) and the absolute value of discretionary accruals. This was estimated using the modified Jones model for a pooled sample of all firm-year observations from 2016 to 2020 and the results were discussed in this chapter. The results of alternative measures and robustness tests have also been outlined. Finally, discussion focused on the process of partitioning the sample by client size and signs of earnings management and performing the main tests again.

Chapter Seven discusses the results relating to the impact of financial experts' personal characteristics (in isolation and in combination) on audit quality measured by the natural logarithm of audit fees. It then outlines the alternative measures of auditor quality used to assess the robustness of this study's main results.

Chapter Seven: Audit Committee Financial Experts' Personal Characteristics and Audit Quality: Results and Discussion

7.1. Chapter Overview

Chapter Six examined the impact of audit committee financial experts' personal characteristics on the absolute value of discretionary accruals using the modified Jones model as a proxy for earnings management. This chapter presents the results of regressions for examining the impact of financial experts' personal characteristics on audit quality using the log of audit fees as a proxy. First, the chapter outlines the results of regressions examining the impact of financial experts' attributes (in isolation and in combination) on audit quality measured by the natural logarithm of audit fees. Second, the alternative measures for audit quality and endogeneity tests are discussed. Third and finally, the results are compared with the findings of previous scholars and discussed in the context of agency and resource dependence theories. The analysis covers a pooled sample of 860 observations from 2016 to 2020.

7.2. Regression Results

The multiple regression analysis was considered appropriate for this study since it examined the effect of multivariate variables on audit quality. OLS regression served to model both dichotomous and continuous variables (Hutcheson & Sofroniou 1999). The multivariate analysis tested the impact of five pivotal financial expert attributes (gender, industry skills, multiple directorships, tenure, and share ownership), in isolation and in combination, on audit quality. These were proxied by the natural logarithm of audit fees for a pooled sample of firm-year observations across the period of 2016 to 2020 (n = 860). The results are discussed in the following section.

7.2.1. Impact of Audit Committee Financial Experts' Personal Characteristics on Audit Quality Using Audit Fees

Models 1 to 7 in Table 7.1 show the results of OLS regressions for all study variables, both in isolation and in combination, against the natural logarithm of audit fees (*Audit_Fee*) for the pooled sample across the observation period of 2016 to 2020. Model 1 represents the baseline test of the relationship between the control variables and audit fees. Models 2 to 6 show the results of OLS regression for the individual

characteristics of audit committee financial experts (female *[FEXP_Female%]*, industry knowledge *[FEXP_Industry%]*, multi-directorships *[FEXP_Multi%]*, tenure *[FEXP_Tenure%]* and ownership *[FEXP_Share%]*) and audit fees.

Model 7 presents the results of the second main regression. A multicollinearity problem was not indicated by the diagnostics. The mean VIF was lower than 1.89 for all models, easily meeting the collinearity conditions for OLS regression. The p–value of F-statstics in all models was highly significant at the 0.01 level (between F=68 and F=77). In line with the previous auditing research conducted in Australia, the value of adjusted R^2 was in the 69.8% to 70.8% range, meaning that the variables included in the regression model were more powerful in explaining the variation in the dependent variable (Aldamen, Hollindale & Ziegelmayer 2018; Sultana, Cahan & Rahman 2020). For brevity, the coefficients for the industry and year dummy variables were omitted. Both combination and isolated analyses for the study variables show similar results for Models 2 to 7. The following discussion therefore focuses primarily on Model 7. The following hypotheses were tested:

H6. There is a positive association between the ratio of female financial experts on an audit committee and audit quality.

H7. There is a positive relationship between the ratio of audit committee financial experts with industry experience and audit quality.

H8. There is a positive relationship between audit committee financial experts who hold multiple directorships and audit quality.

H9. There is a positive relationship between audit committee financial experts' tenure and audit quality.

H10. There is a positive relationship between the audit committee financial experts' ownership and audit quality.

Models 3 and 7 in Table 7.1 show the results of OLS regression (both in isolation and in combination) using the measure of financial expert's industry knowledge (*FEXP_Industry%*) as an explanatory variable for investigating the variation of audit fees. Results suggest that the coefficient on *FEXP_Industry%* (the independent variable) was positive and statistically significant ($\beta = 0.0711$, $p < 0.01$). This aligns with Velte

(2019) which reported that combining financial expertise with industry experience on the audit committee increases the readability of key audit matter (KAM) disclosures more than having industry experts or financial experts alone. This result is also consistent with Cohen et al. (2014), Alhababsah and Yekini (2021) and Zhang and Shailer (2022), who discovered that the combination of audit committee financial and industry expertise related positively to audit quality. This finding suggests that audit committee financial experts with industry experience have a deeper understanding of the specific financial and regulatory requirements of their industry. They are also more familiar with the unique risks and challenges faced by companies in that industry, which leads to a more thorough and effective review of the company's financial statements. This in turn leads to a greater need for audit services, resulting in higher audit fees. This evidence supports the monitoring hypothesis that independent directors are better able to execute their monitoring duties when they have relevant industry expertise. In addition to their relevant industry experience, financial experts on audit committees are more effective in monitoring financial reporting processes and are able to identify any potential red flags that may not be obvious to others. This could also lead to increased audit fees due to the need for a more detailed and comprehensive audit.

This finding can be explained from agency theory and resource dependence theory perspectives. From the agency theory perspective, the industry experience of audit committee financial experts may be seen as beneficial in aligning the interests of management and shareholders. This is because industry experienced members may be able to better understand and evaluate financial statements and identify any potential issues (Fama & Jensen 1983; Jensen 1986). This can lead to a more detailed and comprehensive audit, which may result in higher audit fees. According to the resource dependence theory, audit committee financial experts with industry expertise bring valuable skills and knowledge to the firm, allowing them to monitor corporate management and the external auditor, leading to a superior quality audit. In addition, the subcommittee retains power over financial accounting information by including members with prior industry, accounting, and committee knowledge rather than relying on corporate management and external auditors. A member of the audit committee with prior industry experience is more likely to understand the responsibilities and requirements of the subcommittee and its members (Beasley & Salterio 2001; DeZoort

1997). Therefore, the audit committee with industry-experienced members will also be able to negotiate with the external auditor more effectively and to resolve disagreements between corporate management and the external auditor (DeZoort, Houston & Hermanson 2003; DeZoort & Salterio 2001). Thus, hypothesis H7, which suggests that there is a significant positive relationship between audit committee financial experts with industry expertise and audit quality is supported.

Models 4 and 7 in Table 7.1 show the results of OLS regression for the impact of audit committee financial experts' multiple directorships (*FEXP_Multi%*) on audit fees (both in isolation and in combination). The results indicate that the coefficient on *FEXP_Multi%* (the independent variable) was positive and statistically significant ($\beta = 0.0273$, $p < 0.01$). This implies that ASX-listed companies' audit fees are influenced by the average number of outside directorships held by financial experts on audit committees. There is a possibility that this is because audit committee financial experts have gained valuable experience (including governance experience) from other boards, which gives them the skills and motivation to demand higher audit quality from their auditors. Additionally, audit committee financial experts with multiple directorships are more likely to have expertise in corporate governance and financial reporting. This leads to a higher level of oversight and a greater need for audit services. This finding aligns with the results of prior empirical studies, which found that multiple directorships positively benefit audit fees (Carcello et al. 2002; Lai et al. 2017; Sultana, Singh & Rahman 2019). However, this contrasts with the findings of Carrera, Sohail and Carmona (2017), who found that outside seats held by financial experts on audit committees related to poor quality financial reporting. In addition, Abbott et al. (2003a) and Chan, Liu and Sun (2013) found no correlation between audit fees and multiple directorships.

The agency and resource dependence theories suggest that audit committee financial experts who hold multiple directorships play a major role in monitoring and improving firm performance. From the agency theory perspective, this assumes that an audit committee financial expert who holds multiple directorships enhances the quality of corporate financial reporting and lessens agency problems by reducing information asymmetry between management and owners. In turn, this improves company performance. Also, the presence of financial experts with multiple directorships on the

audit committee can help align the interests of management and shareholders by providing better oversight and evaluation of financial statements. These experts may have more experience and knowledge in financial matters, which can lead to a more thorough and effective review and result in potentially higher audit fees.

From a resource dependence theory perspective, the regression results suggest that having financial experts with multiple directorships on the audit committee can reduce the company's dependence on external resources such as auditors. The theory of resource dependence indicates that external resources influence the behaviour of organisations (Pfeffer & Salancik 1978), and audit committee financial experts who hold multiple seats in other firms are deemed to be one such resource. In a resource-dependence role, directors not only reduce uncertainty, but they also contribute resources to a firm as well as information, skills, and access to key stakeholders (e.g., suppliers, buyers, public policy decision-makers, and social groups) (Hillman, Cannella & Paetzold 2000). Furthermore, it was found that directors serving in better-performing firms are more likely to obtain more board memberships in the future. Ferris, Jagannathan and Pritchard (2003) and Fama and Jensen (1983) proposed that capable directors are rewarded with a substantial number of board positions. Therefore, external resources are very useful for the strategic management of companies. The presence of financial experts with multiple directorships on the audit committee can also help identify potential red flags or issues in financial statements, leading to more detailed and comprehensive audits, potentially increasing audit fees. Accordingly, hypothesis H8 was supported and accepted.

Models 6 and 7 in Table 7.1 show the statistical nature of the relationship between the average tenure of audit committee financial experts (*FEXP_Tenure%*) and the log of audit fees. The regression analysis indicates that financial experts' tenure *FEXP_Tenure%* (the independent variable) was negative and statistically significant at the 0.01 level with *Coeff.* = -0.00828. Study findings suggest that audit fees were negatively correlated with the tenure of financial experts on audit committees, which is consistent with the notion that long tenure leads to poorer auditing work (Chan, Liu & Sun 2013). Financial experts with longer tenure on audit committees may be able to negotiate lower audit fees with auditors. This is because they have more knowledge about the company's finances and operations. It is also possible for a company with

long-tenured financial experts on the audit committee to have more internal controls and more organised financial statements (Chan, Liu & Sun 2013). As a result, audit risk and audit fees are reduced. Another possible way to interpret the negative correlation is that long-serving members have greater knowledge and experience about the company's financial operations than newer members, resulting in a more efficient and effective audit and lower audit fees. This finding aligns with the conclusions of Chan, Liu and Sun (2013), that audit fees are negatively correlated with the proportion of audit committee members who serve long-term on the board. It is also consistent with Dou, Sahgal and Zhang (2015) hypothesis that long-tenured directors perform better than short-tenured ones. However, this outcome is not consistent with a study conducted in Australia by Sultana, Singh and Rahman (2019), which found that audit committee tenure increased the demand for audit fees. The reason for these different conclusions may relate to the different measures used to calculate audit committee tenure. In addition, Sultana, Singh and Rahman (2019) focused on audit committees as a group while this current study focuses solely on financial experts.

The negative relationship between the tenure of audit committee financial experts and audit fees can be explained by the agency theory as well as the resource dependence theory. From an agency theory perspective, the audit committee's purpose is to function as a monitoring mechanism, ensuring that a company's management is acting in the best interests of shareholders (Fama & Jensen 1983; Jensen 1986). Long-serving audit committee members who are financial experts have a greater understanding of the company's operations, which allows them to monitor and oversee the auditor's work more effectively. As a result of increased monitoring and oversight, audit fees are lower and audit processes are more efficient and effective. Members with longer tenure may also have established relationships with auditors, which can make audits more efficient and cost-effective (Dou, Sahgal & Zhang 2015). Additionally, experienced financial experts on audit committees are likely to have acquired substantial financial shares in the company over the course of their tenure, aligning their interests with those of shareholders (Dou, Sahgal & Zhang 2015).

From the resource dependence theory perspective, an organisation's reliance on external resources to achieve their goals, and their ability to access and control those resources, is a key determinant of their success (Hillman, Cannella & Paetzold 2000).

In the case of audit committee financial experts' tenure, long-serving members may develop stronger relationships and networks with external auditors and other stakeholders, providing the company with access to valuable resources such as expertise, knowledge, and lower audit fees (Bedard & Biggs 1991; DeZoort, Houston & Hermanson 2003). Implicit here is the idea that longer tenure is linked to less demand for auditing. Therefore, the argument does not support hypothesis H8.

Within the Australian context, the study's findings assume added relevance and complexity. The positive relationship between audit committee financial experts possessing industry knowledge and increased audit fees aligns with the imperative of robust corporate governance in Australia. In a nation where stringent regulations and a focus on transparency make the expertise of audit committee members crucial, this connection highlights their pivotal role. Similarly, the link between the number of external directorships held by financial experts and heightened audit fees reflects the intricate nature of Australian corporate governance. This underscores the demand for a balance between governance expertise and regulatory intricacies that emphasise board independence.

The inverse relationship between experts' tenure and audit fees is noteworthy. This finding is significant within the regulatory environment of the Australian corporate landscape, which carefully balances expertise and independence. It necessitates a comprehensive analysis to assess how tenure influences the audit committee's negotiation capabilities with external auditors in the context of Australian governance practices. These findings underscore the intricate interplay between audit committee dynamics, industry expertise, multiple directorships, and tenure within the distinctive regulatory and governance context of Australia.

Models 2, 6 and 7 in Table 7.1 indicate that after controlling for the other corporate governance measures and firm characteristics (in isolation and in combination), two independent variables did not impact audit fees. First, the impact of the audit committee financial experts' gender (*FEXP_Female%*) was negative and statistically non-significant. This is consistent with the findings of Sun, Liu and Lan (2011) and Alhababsah and Yekini (2021), who found no link between female directors on audit committees and discretionary accruals. However, this outcome is not consistent with

other research that found a positive relationship between female financial accounting experts and audit fees (Abbasi, Alam & Bhuiyan 2020; Aldamen, Hollindale & Ziegelmayer 2018). One explanation for females on audit committees not being associated with audit fees might be due to the lack of variation in this measure. This reduces the statistical power of testing this audit committee characteristic, as there are very few female audit committee members (0.175 percent). Consequently, hypothesis H6 was not supported. Second, audit committee financial experts' ownership (*FEXP_Share%*) emerged as negative and statistically insignificant. This result aligns with the findings of Bhuiyan and Mabel (2020), specifically that the association of financial experts' equity ownership and audit report lag was positive and insignificant. However, the result disagrees with the work of Liu, Lobo and Yu (2021), who found that an audit committee with stock ownership leads to low audit fees. Furthermore, the result contrasts with those of Engel, Hayes and Wang (2010), who asserted that audit committee compensation increases the demand for audit fees. One explanation for the inconsistency in results is that the relationship between audit committee financial experts' equity ownership and audit fees may be more complex than a simple linear relationship. Additionally, audit committee financial experts' ownership in ASX-listed companies might not affect audit fees. The results of this current study did not support hypothesis H10.

With regard to the firm-specific control variables, there was a positive and significant coefficient of client firm size (*TA*) (β =0.402, < p 0.01). This suggests that larger firms hire external auditors who are experienced and skilled enough to validate their financial statements and present a fair and accurate view of the firm's finances. Also, implicit here is the argument that larger firms are willing to spend more on audit fees to ensure that external auditors' work is done at a high level, thus enhancing the credibility of financial statements. The positive significant relationship between audit fees and firm size aligns with the findings of previous studies (Craswell, Francis & Taylor 1995; DeAngelo 1981; Francis 1984; Goodwin-Stewart & Kent 2006; Simunic 1980). The positive and significant correlation between ROA and audit fees indicates that audit quality is higher for larger, less diversified client firms. This is consistent with the findings of van Raak et al. (2020). In addition, consistent with this study's expectations, the findings indicate that firm receivables (*Debtors*) are significantly and

positively associated with audit fees.

With regard to using corporate governance variables as controls, audit committee shares (*AC_Share%*) were found to be negative and significantly related to audit fees. These results support the idea that equity ownership impairs the independence of audit committee members and diminishes the quality of audits (Bhuiyan & Mabel 2020). Board meetings (*B_Meet*) were positive and significantly related to audit fees.

In terms of the external audit controls, auditor brand (*Big4*), auditor specialisation (*Audit_SP*) and the natural logarithm of subsidiaries (*Log_Subs*) emerged as positively and significantly related to audit fees, which is consistent with the findings of DeAngelo (1981) and Minutti-Meza (2013). Results support the conclusion that audit committees and external auditors have complementary rather than substitutive relationships (Velte 2019). An audit committee's effectiveness is strongly correlated with its members' higher levels of involvement in the finance industry and multiple directorships. An audit committee's effectiveness is also correlated with whether it selects a Big Four auditor, or whether its audit fees are more expensive. Furthermore, the regression model included the year (*Year effect*) and industry (*Industry effect*) dummies to control for industry effects and temporal differences of firm-year observations. An F-statistic at the 1% level of significance was evident. Accordingly, the goodness-of-fit (adjusted R^2) of the regression model was 0.708, indicating good explanatory power of the current study model.

Overall, the data shown in Models 2 to 7 confirm hypotheses H7 and H8 by demonstrating that of the five variables selected (*FEXP_Female%, FEXP_Industry%, FEXP_Multi%, FEXP_Tenure%* and *FEXP_Share%*), *FEXP_Industry%* and *FEXP_Multi%* were the only personal characteristics that significantly shaped (improved) audit quality, both in isolation and in combination. However, it was found that *FEXP_Tenure%* decreased audit fees.

Table 7.1 OLS Regression Results—Impact of Audit Committee Financial Experts' Personal Characteristics on Audit quality Using the Logarithm of Audit Fees

Variables	Expected sign	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)
Constant		2.651***	2.651***	2.633***	2.623***	2.618***	2.663***	2.583***
		(22.27)	(22.05)	(22.20)	(22.16)	(22.03)	(22.33)	(21.61)
FEXP_Female%	+		-0.000392					-0.0196
			(-0.00660)					(-0.334)
FEXP_Industry%	+			0.0701***				0.0711***
				(2.979)				(3.045)
FEXP_Multi%	+				0.0293***			0.0273***
					(3.698)			(3.457)
FEXP_Tenure%	+					-0.00998***		-0.00828***
						(-3.175)		(-2.620)
FEXP_Share%	+						-0.000387	-0.000277
							(-1.459)	(-1.051)
TA	+	0.413***	0.413***	0.407***	0.408***	0.413***	0.410***	0.402***
		(19.22)	(18.86)	(18.98)	(19.12)	(19.31)	(19.04)	(18.54)
MTB	+	-9.73e-05	-9.59e-05	0.000347	-0.00107	-5.09e-05	-0.000212	-0.000528
		(-0.0356)	(-0.0350)	(0.127)	(-0.393)	(-0.0187)	(-0.0775)	(-0.195)
ROA	-	0.0392*	0.0392*	0.0428**	0.0397**	0.0387*	0.0368*	0.0411**
		(1.959)	(1.958)	(2.143)	(1.999)	(1.946)	(1.835)	(2.078)
Leverage	+	0.0577	0.0577	0.0672*	0.0573	0.0773*	0.0582	0.0846**
		(1.436)	(1.431)	(1.675)	(1.436)	(1.912)	(1.450)	(2.100)
Debtors	+	-0.0107**	-0.0107**	-0.0109**	-0.0117**	-0.0101**	-0.0109**	-0.0114**
		(-2.167)	(-2.165)	(-2.206)	(-2.377)	(-2.053)	(-2.194)	(-2.329)
Stock	+	0.0401	0.0402	0.0349	0.0456	0.0415	0.0427	0.0431
		(1.207)	(1.206)	(1.051)	(1.381)	(1.255)	(1.282)	(1.312)
AC_Size	+	0.0359**	0.0359**	0.0371**	0.0320**	0.0180	0.0361**	0.0190
		(2.371)	(2.368)	(2.463)	(2.126)	(1.120)	(2.389)	(1.192)
AC_Tenure	+	-0.0138	-0.0138	-0.00745	-0.00887	0.0405	-0.0157	0.0403
		(-0.695)	(-0.693)	(-0.376)	(-0.450)	(1.552)	(-0.792)	(1.545)
AC_Share%	+	-0.00313***	-0.00313***	-0.00334***	-0.00260**	-0.00267**	-0.00109	-0.00105
		(-2.832)	(-2.812)	(-3.027)	(-2.349)	(-2.408)	(-0.614)	(-0.594)
B_Meet	+	0.00654***	0.00654***	0.00631**	0.00608**	0.00661***	0.00658***	0.00602**
		(2.588)	(2.584)	(2.510)	(2.423)	(2.632)	(2.609)	(2.416)
Board_Ind%	+	-0.000393	-0.000393	-0.000495	-0.000494	-0.000354	-0.000387	-0.000548

Variables	Expected sign	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)
		(-0.790)	(-0.789)	(-0.997)	(-0.998)	(-0.716)	(-0.778)	(-1.114)
Big4	+	0.151***	0.151***	0.151***	0.139***	0.152***	0.158***	0.148***
		(4.583)	(4.568)	(4.611)	(4.250)	(4.657)	(4.755)	(4.478)
Audit_SP	+	0.0573**	0.0573**	0.0570**	0.0675**	0.0594**	0.0537*	0.0657**
		(2.047)	(2.046)	(2.046)	(2.418)	(2.134)	(1.912)	(2.364)
Log_Subs	+	0.0779***	0.0779***	0.0788***	0.0740***	0.0749***	0.0783***	0.0728***
		(7.207)	(7.201)	(7.319)	(6.860)	(6.939)	(7.242)	(6.783)
Year effect	*?*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*
Industry effect	*?*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*
Observations		860	860	860	860	860	860	860
Adjusted R^2		0.698	0.698	0.701	0.703	0.701	0.699	0.708
F test		77.41	74.45	75.57	76.18	75.73	74.72	68.09
Prob>F		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mean VIF		1.71	1.71	1.70	1.71	1.78	1.86	1.89

Notes: t-statistics are in parentheses. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively.

Model 1 is based on Equation (23), Model 2 is based on Equation (24), Model 3 is based on Equation (25), Model 4 is based on Equation (26), Model 5 is based on Equation (27), Model 6 is based on Equation (28), and Model 7 is based on Equation (29), as follows:

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 TA_{it} + \beta_2 MTB_{it} + B_3 ROA_{it} + \beta_4 Leverage_{it} + \beta_5 Debt_{it} \\ & + \beta_6 Stock + \beta_7 ACSize_{it} + \beta_8 AC\_Tenure_{it} + \beta_9 AC\_Share\%_{it} \\ & + \beta_{10} B\_Meet_{it_{it}} + \beta_{11} Board\_Ind\%_{it} + \beta_{12} Big4_{it} + \beta_{13} Audit\_SP_{it} \\ & + \beta_{14} Log\_Subs_{it} + \beta_{15} Year_{it} + \beta_{16} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (22)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} \\ & + \beta_5 Leverage_{it} + \beta_6 ADebt_{it} + \beta_7 Stock_{it} + \beta_8 ACSize_{it} \\ & + \beta_9 AC\_Tenure_{it} + \beta_{10} AC\_Share\%_{it} + \beta_{11} B\_Meet_{it_{it}} \\ & + \beta_{12} Board\_Ind\%_{it} + \beta_{13} Big4_{it} + \beta_{14} Audit\_SP_{it} + \beta_{15} Log\_Subs_{it} \\ & + \beta_{16} Year_{it} + \beta_{17} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (23)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Industry\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} \\ & + \beta_5 Leverage_{it} + \beta_6 ADebt_{it} + \beta_7 Stock_{it} + \beta_8 ACSize_{it} \\ & + \beta_9 AC\_Tenure_{it} + \beta_{10} AC\_Share\%_{it} + \beta_{11} B\_Meet_{it_{it}} \\ & + \beta_{12} Board\_Ind\%_{it} + \beta_{13} Big4_{it} + \beta_{14} Audit\_SP_{it} + \beta_{15} Log\_Subs_{it} \\ & + \beta_{16} Year_{it} + \beta_{17} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (24)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Multi\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} \\ & + \beta_5 Leverage_{it} + \beta_6 ADebt_{it} + \beta_7 Stock_{it} + \beta_8 ACSize_{it} \\ & + \beta_9 AC\_Tenure_{it} + \beta_{10} AC\_Share\%_{it} + \beta_{11} B\_Meet_{it_{it}} \\ & + \beta_{12} Board\_Ind\%_{it} + \beta_{13} Big4_{it} + \beta_{14} Audit\_SP_{it} + \beta_{15} Log\_Subs_{it} \\ & + \beta_{16} Year_{it} + \beta_{17} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (25)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Tenure\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} \\ & + \beta_5 Leverage_{it} + \beta_6 ADebt_{it} + \beta_7 Stock_{it} + \beta_8 ACSize_{it} \\ & + \beta_9 AC\_Tenure_{it} + \beta_{10} AC\_Share\%_{it} + \beta_{11} B\_Meet_{it_{it}} \\ & + \beta_{12} Board\_Ind\%_{it} + \beta_{13} Big4_{it} + \beta_{14} Audit\_SP_{it} + \beta_{15} Log\_Subs_{it} \\ & + \beta_{16} Year_{it} + \beta_{17} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (26)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 Share\%_{it} + \beta_2 TA_{it} + \beta_3 MTB_{it} + B_4 ROA_{it} + \beta_5 Leverage_{it} \\ & + \beta_6 ADebt_{it} + \beta_7 Stock_{it} + \beta_8 ACSize_{it} + \beta_9 AC\_Tenure_{it} \\ & + \beta_{10} AC\_Share\%_{it} + \beta_{11} B\_Meet_{it_{it}} + \beta_{12} Board\_Ind\%_{it} \\ & + \beta_{13} Big4_{it} + \beta_{14} Audit\_SP_{it} + \beta_{15} Log\_Subs_{it} + \beta_{16} Year_{it} \\ & + \beta_{17} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (27)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} \\ & + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} \\ & + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} Debt_{it} \\ & + \beta_{11} Stock_{it} + \beta_{12} ACsize_{it} + \beta_{13} AC\_Tenure_{it} + \beta_{14} AC\_Share\%_{it} \\ & + \beta_{15} B\_Meet_{it} + \beta_{16} Board\_Ind\%_{it} + \beta_{17} Big4_{it} + \beta_{18} Audit\_SP_{it} \\ & + \beta_{19} Log\_Subs_{it} + \beta_{20} Year_{it} + \beta_{21} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (28)$$

Where: $Audit\_Fee_{it}$ = Natural logarithm of audit fees; *FEXP_Female%* = Proportion of female financial expert directors to the total number of audit committee members; *FEXP_Industry%*= Proportion of financial expert directors with industry skills to the total number of audit committee members; *FEXP_Multi%*= Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Tenure%*= proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%*= Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); TA_{it} = Natural logarithm of total assets; MTB_{it}= Proportion of market value of equity to book value of equity; ROA_{it}= Return on assets (net income/total assets); $Leverage_{it}$ = Total liabilities divided by total assets; *Debtors*= Proportion of receivables to total assets*; Stock = Proportion of stock to total assets; AC_Size* = Number of audit committee members; AC_Tenure_{it}= Natural logarithm of audit committee tenure (excluding the tenure of financial experts); $AC\_Share\%_{it}$= Total of shares owned by audit committee members to total of

outstanding shares (without shares owned by audit committee financial experts); B_Meet_{it}= Number of board meetings; $Board\_Ind\%_{it}$= Ratio of board independence; $Big4_{it}$= Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; $Audit\_SP_{it}$= Use dummy variable 1, otherwise 0; *Log_Subs* = Natural logarithm of the number of subsidiaries; $Year_{it}$= Year effect; $Industry_{it}$= Industry effect.

7.3. Additional Analysis and Robustness Checks

Several robust analyses and additional checks were conducted in this study to improve the validity of the generated results. These are discussed in the following sub-sections. The study also used tools to mitigate endogeneity bias between the characteristics of financial experts and audit quality. The results of the alternative tests and robustness checks are presented in Table 7.2.

7.3.1. Alternative Measure of Audit Fees (Abnormal Audit Fees)

To test whether the OLS regression analysis results presented in Table 7.1 were robust with a different definition of audit fees, the abnormal audit fees variable was used as a dependent variable. Unsigned abnormal audit fees ($AB\_Audit\_Fee_{it}$) were employed for different types of audits. According to Eshleman and Guo (2014), abnormal audit fees are widely implemented as an additional sensitivity test to ensure the findings are valid. The actual audit fees are broken down into two components using an audit expectation model. A normal audit fee is the expected component, whereas an abnormal audit fee is the unexpected component (Choi, Kim & Zang 2010). A two-stage approach served to generate the abnormal audit fee. In the first step, audit fees were estimated using an audit fee model adapted from previous literature, with a focus on controlling for audit fee determinants associated with firm risk (Blankley, Hurtt & MacGregor 2012; Chaney, Jeter & Shivakumar 2004; Craswell, Francis & Taylor 1995; DeFond, Raghunandan & Subramanyam 2002; Sankaraguruswamy & Whisenant 2005). The logged audit fees ($Audit\_Fee_{it}$) were regressed on client size, risk, audit effort, year, and industry variables. The following equation was posited:

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_1 TA_{it} + \beta_2 ROA_{it} + \beta_3 Growth_{it} + \beta_4 Leverage_{it} + \beta_5 LOSS_{it} \\ & + \beta_6 \text{Subsidiaries}_{it} + \beta_7 SQ\_Employee\_Numbers_{it} + \beta_8 Big4_{it} \\ & + +\beta_9 Year_{it} + \beta_{10} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (29)$$

Where: $Audit\_Fee_{it}$= Natural logarithm of audit fees; TA_{it}= Natural logarithm of total assets; ROA_{it} = Return on assets (net income/total assets): $Growth_{it}$= Current year's sales divided by last year's sales; $Leverage_{it}$= Total liabilities divided by total assets; $LOSS_{it}$= 1 if the firm reported a loss during the

year, and 0 otherwise; Subsidiaries_{it}= Number of firms' subsidiaries; $SQ\_Employee\_Numbers_{it}$ = Square root of number of employees: $Big4_{it}$= Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; $Year_{it}$= Year effect; $Industry_{it}$= Industry effect; i = Firm client; t = Year.

Consistent with prior research, several control variables were included. The demand for audit services is likely to increase with firm size. Therefore, the log of total assets (*TA*), the square root of the number of firm employees (*SQ_Employee_Numbers*), and the number of firm subsidiaries (*Subsidiaries*) were included in the audit fee model to control for firm size. In equation (30), *ROA, Growth,* and *LOSS* were included to proxy for a client's risk characteristics since auditors charge higher fees for risky clients (Simunic 1980). *Leverage* was included as a measure of the long-term financial structure of the client. *Big4* was included to capture the effect of audit quality differentiation on audit fees. Industry effect (*Industry)* was included because each industry may charge a different audit fee (Frankel, Johnson & Nelson 2002). Finally, year effect (*Year*) was included to control for yearly differences.

In the second stage, the log of audit fees (*Audit_Fee*) was replaced by the standardised abnormal audit fee (*Ab_ Audit_Fee*), which was estimated here by the predicted value derived from equation (30). Then the main analysis findings presented in Table 7.1 were retested using *Ab_ Audit_Fee* as a dependent variable instead of *Audit_Fee*. Model 1 in Table 7.2 documents the results of the OLS regression, including all five measures of financial expert characteristics (*FEXP_Female%, FEXP_Industry%, FEXP_Multi%, FEXP_Tenure%* and *FEXP_Share%*) used as explanatory variables in analysing the variation in abnormal audit fees for the pooled sample across the observation period 2016 to 2020. Consistent with the main analysis results shown in Table 7.1, the coefficients on *FEXP_Female%* and *FEXP_Share%* remained negative and statistically insignificant. A review of Model 1 indicates that the control variables, specifically firm size (*TA*), firm performance (*ROA*), receivables (*Debtors*), board meetings (*B_Meet*), auditor brand (*Big4*), log of subsidiaries (*Log_Subs*), and auditor specialisation (*Audit_SP*), continued to be significant predictors of the abnormal audit fee. Unlike the main analysis results shown in Table 7.1, leverage (*Leverage*), inventory (*Stock*), and audit committee tenure (*AC_Tenure)* were related to abnormal audit fees. The F-statistic remained significant at the 1% level. It is important to note that adjusted R^2 represents low values that are typical of this type of regression (Huang & Lin 2016).

Using this alternative specification for the dependent variable, the results remained robust.

Table 7.2 Alternative Measures and Robustness check—Impact of Audit Committee Financial Experts' Personal Characteristics on Audit quality

Variables	Model (1)	Model (2)	Model (3)
	Abnormal Audit Fee	**Huber-White standard error**	**Mills Ratio**
Constant	1.877***	2.583***	2.594***
FEXP_Female%	(14.53)	(25.01)	(20.88)
	0.00952	-0.0196	-0.0187
FEXP_Industry%	(0.150)	(-0.258)	(-0.318)
	0.0765***	0.0711**	0.0720***
FEXP_Multi%	(3.035)	(2.216)	(3.082)
	0.0299***	0.0273**	0.0273***
FEXP_Tenure%	(3.507)	(2.550)	(3.452)
	-0.00652*	-0.00828**	-0.00820***
FEXP_Share%	(-1.909)	(-2.564)	(-2.591)
	-0.000121	-0.000277	-0.000284
TA	(-0.424)	(-1.589)	(-1.076)
	-0.369***	0.402***	0.402***
MTB	(-15.74)	(19.47)	(18.10)
	0.00197	-0.000528	-0.000586
ROA	(0.673)	(-0.204)	(-0.216)
	0.0851***	0.0411***	0.0481*
Leverage	(3.983)	(3.249)	(1.728)
	0.112**	0.0846**	0.0839**
Debtors	(2.571)	(2.292)	(2.076)
	-0.0113**	-0.0114***	-0.0113**
Stock	(-2.129)	(-2.836)	(-2.310)
	0.0606*	0.0431***	0.0431
AC_Size	(1.708)	(4.600)	(1.309)
	0.00977	0.0190	0.0188
AC_Tenure	(0.567)	(1.327)	(1.177)
	0.0473*	0.0403*	0.0389
AC_Share%	(1.678)	(1.928)	(1.487)
	-0.00190	-0.00105	-0.000960
B_Meet	(-1.000)	(-0.804)	(-0.543)
	0.00706***	0.00602**	0.00592**
Board_Ind%	(2.621)	(2.396)	(2.371)
	-0.000180	-0.000548	-0.000561
Big4	(-0.339)	(-1.132)	(-1.137)
	0.0720**	0.148***	0.149***
Audit_SP	(2.021)	(4.113)	(4.514)
	0.0684**	0.0657*	0.0663**
Log_Subs	(2.279)	(1.702)	(2.384)
	0.0844***	0.0728***	0.0728***
Mills	(7.275)	(7.065)	(6.778)
			-0.00112
Robust		Yes	(-0.338)
Year effect	*Included*	*Included*	*Included*
Industry effect	*Included*	*Included*	*Included*
Observations	860	860	859
Adjusted R^2	0.293	0.708	0.707
F test	12.51	116.6	65.85
Prob>F	0.0000	0.0000	0.0000
Mean VIF	1.89	1.89	1.94

Notes: t-statistics are in parentheses. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively

Model 1 is based on Equation (32), Model 2 is based on Equation (33), Model 3 is based on Equation (34).

$$\begin{aligned} AB\_Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} \\ & + \beta_3 FEXP\_Multi\%_{it} + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} \\ & + \beta_6 TA_{it} + \beta_7 MTB_{it} + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} Debt_{it} \\ & + \beta_{11} Stock_{it} + \beta_{12} AC\_Size_{it} + \beta_{13} AC\_Tenure_{it} + \beta_{14} AC\_Share\%_{it} \\ & + \beta_{15} B\_Meet_{it} + \beta_{16} Board\_Ind\%_{it} + \beta_{17} Big4_{it} + \beta_{18} Audit\_SP_{it} \\ & + \beta_{19} Log\_Subs_{it} + \beta_{20} Year_{it} + \beta_{21} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (30)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} \\ & + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} \\ & + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} Debt_{it} + \beta_{11} Stock_{it} + \beta_{12} AC\_Size_{it} \\ & + \beta_{13} AC\_Tenure_{it} + \beta_{14} AC\_Share\%_{it} + \beta_{15} B\_Meet_{it} + \beta_{16} Board\_Ind\%_{it} \\ & + \beta_{17} Big4_{it} + \beta_{18} Audit\_SP_{it} + \beta_{19} Log\_Subs_{it} + \beta_{20} Year_{it} \\ & + \beta_{21} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (31)$$

$$\begin{aligned} Audit\_Fee_{it} = {} & \beta_0 + \beta_1 FEXP\_Female\%_{it} + \beta_2 FEXP\_Industry\%_{it} + \beta_3 FEXP\_Multi\%_{it} \\ & + \beta_4 FEXP\_Tenure\%_{it} + \beta_5 FEXP\_Share\%_{it} + \beta_6 TA_{it} + \beta_7 MTB_{it} \\ & + B_8 ROA_{it} + \beta_9 Leverage_{it} + \beta_{10} Debt_{it} + \beta_{11} Stock_{it} + \beta_{12} AC\_Size_{it} \\ & + \beta_{13} AC\_Tenure_{it} + \beta_{14} AC\_Share\%_{it} + \beta_{15} B\_Meet_{it} + \beta_{16} Board\_Ind\%_{it} \\ & + \beta_{17} Big4_{it} + \beta_{18} Audit\_SP_{it} + \beta_{19} Log_{Subs_{it}} + \beta_{20} Mills_{it} + \beta_{21} Year_{it} \\ & + \beta_{22} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (32)$$

Where: $AB\_Audit\_Fee_{it}$= Abnormal audit fee is the residuals from the audit fee model in equation (30); $Audit\_Fee_{it}$= Natural logarithm of audit fees; *FEXP_Female%*= Proportion of female financial expert directors to the total number of audit committee members*; FEXP_Industry%*= Proportion of financial expert directors with industry skills to the total number of audit committee members*; FEXP_Multi%*= Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members*; FEXP_Tenure%*= Proportion of financial expert directors with multiple directorships on the board to the total number of audit committee members; *FEXP_Share%*= Ratio of shareholdings owned by financial experts on the audit committee in a firm (total number of shareholdings owned by financial experts divided by the total number of outstanding shares); TA_{it} = Natural logarithm of total assets; MTB_{it}= Proportion of market value of equity to book value of equity*;* ROA_{it}= Return on assets (net income/total assets); $Leverage_{it}$ = Total liabilities divided by total assets; *Debtors*= Proportion of receivables to total assets*; Stock* = Proportion of stock to total assets; *AC_Size* = Number of audit committee members; AC_Tenure_{it}= Natural logarithm of audit committee tenure (excluding the tenure of financial experts)*;* $AC\_Share\%_{it}$= Total of shares owned by audit committee members to total of outstanding shares (without shares owned by audit committee financial experts); B_Meet_{it}= Number of board meetings; $Board\_Ind\%_{it}$= Ratio of board independence; $Big4_{it}$= Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; $Audit\_SP_{it}$= Use dummy variable 1, otherwise 0; *Log_Subs* = Natural logarithm of the number of subsidiaries; and $Mills_{it}$ = Reverse Mills ratio; $Year_{it}$= Year effect; $Industry_{it}$= Industry effect.

7.3.2. Endogeneity

Although the results from the analysis of audit committee financial experts' personal characteristics and audit fees were robust when an alternative audit quality proxy was used, there was still a possibility of endogeneity bias. These endogenous concerns were mitigated through the application of a Huber-White sandwich test and by controlling for auditor self-selection.

7.3.2.1. Huber-White Standard Error

In the presence of heteroscedasticity, the robust standard error method using Huber-White's sandwich estimator described in Diggle et al. (2002) can provide a more reliable solution for this issue. Huber-White standard errors may be necessary in this setting to overcome potential serial correlation and misspecifications in pooled cross-sectional regressions. The Huber-White standard errors method is a popular approach for ensuring findings are robust when heteroscedasticity is present (Alhababsah 2019). Therefore, the main analysis was re-tested to adjust for the heteroscedasticity problem. As shown in Model 2 in Table 7.2, the value of the tested models was significant at the 0.1% level (Prob>F = 0.000). In general, Huber-White's sandwich estimator produced qualitatively similar results to the primary analysis.

7.3.2.2. Controlling for Self-Selection

OLS regression estimates of the determinants of audit fees from the study model and other controls worked well as long as the auditor type was random. However, clients may self-select to hire Big Four auditors (Chaney, Jeter & Shivakumar 2004; Lyubimov 2019). The method of self-selection was utilised in accordance with established practice in prior literature to illustrate endogeneity. Specifically, the choice of Big Four status aligns with existing research practice and highlights potential endogeneity issues within the context of the study (Haider, Singh & Sultana 2021). Choosing one of the Big Four is an endogenous decision for clients, and factors that determine the choice can affect audit fees. In order to correct for the self-selection bias (endogeneity) of hiring Big Four auditors in the primary audit fees models, the Heckman two-stage estimator was used (Heckman 1976). In the first stage, the Inverse Mills ratio ($Mills_{it}$) was calculated using a selection model (equation [(31])[39]. In the second stage, this ratio was added to the main study model as an additional control variable to check for endogeneity issues. Based on Lawrence, Minutti-Meza and Zhang (2011), the selected model was written as follows:

$$\begin{aligned} Big4_{it} = {} & \beta_0 + \beta_1 TA_{it} + \beta_2 MTB_{it} + B_3 ROA_{it} + \beta_4 Leverage_{it} + \beta_5 TobinQ_{it} + \beta_6 ACSize_{it} \\ & + \beta_7 BoardSize\%_{it} + \beta_8 B\_MEET_{it} + \beta_9 Board\_Ind\%_{it} + \beta_{10} Year_{it} \\ & + \beta_{11} Industry_{it} + \varepsilon_{it} \end{aligned} \quad (33)$$

[39] The Inverse Mills ratio is used specifically in accounting research to address the potential self-selection bias (Lennox, Francis & Wang 2012).

In the previous probit model, *Big4* was the dependent variable while auditor type attributes were the independent variables of interest.[40]

For the findings of the second-stage estimation reported in Model 3 in Table 7.2, the signs and coefficients of *FEXP_Industry%*, *FEXP _Multi%* and *FEXP _Tenure%* remained unchanged after considering selection bias. These second-stage results were robust and confirmed that auditor self-selection did not influence the main analysis results.

7.4. Chapter Summary

This chapter reported the empirical results focused on the impact of audit committee financial experts' personal characteristics on audit quality using the log of audit fees. Initially, regression was used to examine the relationship between five personal characteristics (both in isolation and in combination) and audit quality using the log of audit fees for a pooled sample of all firm-year observations from 2016 to 2020. Finally, alternative measures and robustness test results were presented to determine whether the main results were valid. Chapter Eight provides an overview of the study and its major conclusions, as well as this study's contributions to the research field.

[40] These variables can be defined as follows: $Big4_{it}$ = Dummy variable for 1 firm audited by a Big Four firm during the sample period, otherwise 0; TA_{it}= Natural logarithm of total assets; MTB_{it}= proportion of market value of equity to book value of equity; ROA_{it}= Return on assets (net income/total assets); $Leverage_{it}$= Total liabilities divided by total assets; $TobinQ_{it}$= Calculated as market value divided by book value, where the book value of liabilities plus common stock market value equals the market value of assets; $ACSize_{it}$= Total number of audit committee members; $BoardSize\%_{it}$= Total number of board directors; B_MEET_{it}= Number of board meetings; $Board\_Ind\%_{it}$ =Ratio of board independence; $Year_{it}$= Year effect; $Industry_{it}$= Industry effect.

Chapter Eight: Conclusion and Implications

8.1. Chapter Overview

Chapter Seven presented the empirical results from an analysis of the impact of audit committee financial experts' personal characteristics on audit quality. In this chapter, the major conclusions and implications of this study are summarised. Explanations are provided on the major hypotheses and key findings of the study. Following this, contributions and implications are discussed, along with a summary of the limitations and future research opportunities on this topic. The chapter concludes with an overview of what the study has achieved.

8.2. Study Overview

This study's primary objective was to provide a comprehensive analysis of the association between the five characteristics of audit committee financial experts (gender, industry experience, multiple directorships, tenure and share ownership) and the quality of financial reporting and external audits prevalent in Australian publicly-listed firms. The issue of earnings management served as a proxy for financial reporting quality, while the natural logarithm of audit fees functioned as a proxy for audit quality. The perspectives offered by agency and resource dependence theories best served the analytical strategy taken in this study, given their close affinity with corporate governance and earnings quality issues.

Drawing on the fundamental tenets of the underlying theoretical perspectives and the findings of related prior research, a number of directional hypotheses were developed. These postulated the associations between the five selected financial experts' characteristics, financial reporting quality and audit fees. A negative association with earnings management was hypothesised for financial experts with ownership of company stock. Conversely, a positive association with audit fees was hypothesised for financial experts with industry experience and multiple outside seats, while a negative association was evident for financial experts with long board tenure. For the purposes of empirical analysis, to formally test the devised hypotheses, the five characteristics of financial experts were regressed both in isolation and in combination against discretionary accruals (a common proxy for earnings management) and audit fees (a common proxy for audit

quality). For the quality of financial reporting, the modified Jones model was used for important tests while the performance adjusted model was deployed for alternative checking. For audit quality, the natural logarithm of audit fees was used for the main analysis, while abnormal audit fees were used for the alternative test. This study used a range of robustness tests to check the validity of the analysis method. The data used to construct the independent and dependent variables was obtained from annual reports and DataStream.

The main statistical analysis was conducted using an initial pool of all Australian publicly-listed and incorporated firms registered continuously on the ASX between 2016 and 2020. Following the necessary exclusions, the final sample consisted of 172 of the top 500 ASX-listed companies, resulting in 860 firm-year observations. The conclusions of the statistical analysis of the testable hypotheses are summarised in the next section.

8.3. Major Conclusions of the Study

A summary of each testable hypothesis formulated and examined in this study is presented in Table 8.1, together with an indication of its acceptance or rejection. Table 6.1 and Table 7.1 of Chapters Six and Seven, respectively, present the key empirical results of this study. These tables report the regression results, examining the impact of five financial experts' characteristics, both in isolation and in combination, on financial reporting quality (measured by the absolute value of discretionary accruals calculated using the modified Jones model) and audit quality (measured using the logarithm of audit fees).

Table 8.1 Acceptance/Rejection of Hypotheses

Panel A: Personal characteristics of audit committee financial experts and financial reporting quality.		
Hypothesis	**Description**	**Accept/Reject**
H1	There is a negative association between the ratio of female financial experts on an audit committee and financial reporting quality.	**Reject**
H2	There is a negative relationship between the ratio of audit committee financial experts with industry experience and financial reporting quality.	**Reject**
H3	There is a negative relationship between audit committee financial experts who hold multiple directorships and financial reporting quality.	**Reject**
H4	There is a negative relationship between audit committee financial experts' tenure and financial reporting quality.	**Reject**
H5	There is a negative relationship between audit committee financial experts' ownership and financial reporting quality.	**Accept**
Panel B: Personal characteristics of audit committee financial experts and audit quality.		
Hypothesis	**Description**	**Accept/Reject**
H6	There is a positive association between the ratio of female financial experts on an audit committee and audit quality.	**Reject**
H7	There is a positive relationship between the ratio of audit committee financial experts with industry experience and audit quality.	**Accept**
H8	There is a positive relationship between audit committee financial experts who hold multiple directorships and audit quality.	**Accept**
H9	There is a positive relationship between audit committee financial experts' tenure and audit quality.	**Reject**
H10	There is a positive relationship between the audit committee financial expert's ownership and audit quality.	**Reject**

As indicated in Table 8.1, five testable hypotheses related to financial reporting quality (H1, H2, H3, H4 and H5) and the other five (H6, H7, H8, H9 and H10) concentrated on audit quality.

8.3.1. Conclusions from the Hypotheses on Financial Reporting Quality

Hypothesis H5 postulated that an Australian publicly-listed firm with financial experts on high levels of ownership was more likely to be associated with low earnings management. The main findings fully support the acceptance of H5 by consistently showing there was a significant negative association between financial ownership, and the absolute value of clients' discretionary accruals (see Table 6.1).

Robust and sensitivity tests (i.e., alternative proxy measures for earnings management, Huber-White's sandwich test, the Hausman test, and partitioning of the sample by firm size and signed discretionary accruals) generally supported the statistically significant association of the main findings related to H5 (see Table 6.2 and Table 6.3). However, it should be reiterated that the findings were limited to large firms only (see Table 6.3, Model 1). This suggests that larger firms with more financial experts who have high levels of ownership were more likely to reduce earnings management than was the case for smaller firms. An additional test of income-increasing and income-decreasing discretionary accruals indicated that financial experts with high levels of ownership were more effective in constraining income-decreasing earnings management.

Finally, for hypotheses H1, H2, H3, and H4, it was postulated that financial experts who were female, had industry experience, multiple directorship positions and longer tenure, engaged in less earnings management. The results revealed a positive yet statistically insignificant relationship between industry experience and tenure on one hand, and the absolute value of discretionary accruals on the other hand. Conversely, financial experts who held multiple directorships displayed a negative and statistically insignificant association with discretionary accruals. Since there was no empirical support for this association, hypotheses H1, H2, H3, and H4 were rejected.

8.3.2. Conclusions from the Hypotheses on Audit Quality

Hypotheses H7, H8 and H9 postulated that there would be a positive association between the natural logarithm of audit fees and the characteristics of audit committee financial experts, such as industry experience and multiple directorships tenure. The main

empirical results for H7 and H8 (see Table 7.1) indicated a statistically significant positive association, while empirical results for H9 indicated a significant negative one. In accepting H7 and H8, the results suggest that firms with an audit committee financial expert with prior industry experience and multiple outside seats, are likely to be associated with demanding high external audit oversight. Conversely, the results for H9 suggest that financial experts with long tenure tend to demand less expensive audit fees (a finding that was contrary to what was predicted). Therefore, H9 was rejected.

Robustness and sensitivity tests (i.e., abnormal audit fees, Huber-White's sandwich error, and controlling for self-selection and firm-fixed effects) were conducted to support the main results. This showed that only financial experts' industry knowledge and multiple directorships continued to have a significant positive association with audit fees, while financial experts' tenure continued to have a significant negative association with audit fees (see Table 7.2).

Lastly, the results strongly suggest that there was no significant association between financial experts' gender and ownership, and audit fees. These findings contradict the predicted association (see Table 7.1). The results suggest that female financial experts and ownership wield no influence on audit fees in the Australian context. For this reason, H6 and H10 were rejected.

8.4. Major Contributions of the Study

This study has made multiple contributions. First, the research has added new insights to the audit committee effectiveness and earnings management literature. This thesis has convincingly illustrated the importance of taking into account the ownership of financial experts when assessing the potential of earnings management. Empirical evidence from this study has underpinned the assertion that earnings management is influenced significantly by the business ownership of financial experts.

Second, this thesis contributes to the audit committee effectiveness and audit quality literature. This thesis has enabled a better understanding of how audit committees' financial experts with industry experience and multiple directorships, as well as long tenure, affect audit quality. In particular, the findings confirm that financial experts on audit committees with multiple directorships and industry knowledge are associated with higher audit fees, whereas financial experts with long tenure are associated with lower

audit fees. Furthermore, the gender and ownership features of financial experts do not appear to have any impact on the quality of audits. This could provide guidance to audit committees for future decisions regarding appointing and retaining financial experts.

Third, this study enhances the literature related to the financial reporting and audit oversight wielded by financial experts. The findings from previous literature are mixed in this regard. Alkebsee et al. (2022) and Krishnan and Visvanathan (2009) found no association between financial experts on audit committees and financial reporting monitoring, while Abbott et al. (2003a) substantiated a negative association. This current study has examined these contradictions in the literature in terms of the association between financial experts on audit committees, financial reporting quality and audit quality. In doing so, this study has determined that the conflicting evidence may have been driven by the researchers' failure to investigate the personal characteristics of financial experts. This is evident in the findings in this study that those with ownership are positively associated with financial reporting quality, while financial experts with industry knowledge, multiple directorships and long tenure are linked to high audit quality.

Fourth, empirical research on the effect of gender, multi-directorships and tenure in audit committees on earnings management and audit fees in Australia is scarce. In this study, it is demonstrated that the quality of financial reporting is not affected by the presence of financial experts who are female, have multiple outside seats and enjoy long tenure. In addition, the findings confirm that audit committee financial experts' gender and business ownership have no influence on audit quality. The findings suggest that companies should focus on other factors, such as industry knowledge and multi-directorships, when selecting financial experts to serve on their audit committees.

Fifth, this Australian study provides a broad, holistic examination of the link between financial experts on audit committees, financial reporting quality and audit quality, using a comprehensive range of pivotal characteristics of financial experts, both in isolation and in combination. To the best of this researcher's knowledge, this is the first study to provide such a comprehensive examination on financial experts' characteristics and their effect on both financial reporting and audit quality, and how these are linked in the Australian capital market context. Consequently, this investigation helps to: (a)

provide a much deeper understanding of an important monitoring mechanism (i.e., audit committee financial experts) and the extent to which this mechanism enhances the credibility of financial reporting and external audits by Australian listed firms; and (b) expand on the limited and controversial evidence on the audit committee attributes and their linkage to financial reporting quality and audit quality that has been documented in previous Australian literature. The consistent results found across the variations of the aggregate accruals approach and audit fees measures, support the conclusions drawn from this study's statistical analysis.

Sixth, this study's findings have practical implications. The outcomes illustrate the value of combining financial expertise (accounting or non-accounting) with industry experience to improve the effectiveness of audit committee monitoring. Consequently, audit committees should be comprised of board members who have such expertise. In addition, this study contributes to the debate over whether directors are more effective at monitoring when they have a high number of additional directorships or not. Further evidence indicates that audit committee financial experts with many additional directorships can effectively increase the quality of an audit. This study has provided different kinds of evidence on this issue, beyond what has been considered in other studies, thereby contributing to the debate. According to Carrera, Sohail and Carmona (2017), firms that have a high number of additional directorships are more likely to engage in accrual earnings management.

Seventh and finally, this study's findings contribute to both agency theory and resource dependence theory in different ways. For example, the research framework strengthens our understanding of agency theory and resource dependence theory by including some new characteristics of audit committee financial experts that have not been investigated in depth in other studies, such as gender and financial industry experience (see Dhaliwal, Naiker & Navissi 2010). According to agency theory, the presence of financial experts on the audit committee can mitigate agency problems between management and shareholders by improving the quality of financial reporting (Fama & Jensen 1983; Jensen 1986). The findings of this study that financial experts with industry knowledge and multiple directorships are associated with higher audit fees can be explained by the fact that these experts bring valuable knowledge and experience to the audit committee, which may lead to more rigorous and complex audits. This supports

the agency theory's prediction that financial experts can improve the quality of financial reporting and reduce agency costs. This is an important finding, as it suggests that companies may be able to reduce their audit costs by including financial experts for longer periods. In addition, this study's results provide evidence that financial experts' industry knowledge and stock ownership can ensure a better alignment of financial expert and shareholder interests, since both have similar long-term objectives in mind (Fama & Jensen 1983).

This study applied the theoretical framework of Hillman and Dalziel (2003) to the context of financial expertise on audit committees. According to resource dependence theory, companies rely on external resources to achieve their goals, and the allocation of these resources is influenced by the power and dependence relationships between the company and its external partners. This study's findings that financial experts with long tenure are associated with lower audit fees can be explained by the fact that companies may become dependent on these experts over time, and may be willing to offer lower audit fees to retain their services. This supports the resource dependence theory's prediction that the allocation of resources is influenced by power and dependence relationships. Therefore, this study supports Hillman and Dalziel (2003) theoretical framework, which combines agency theory and resource dependence theory.

8.5. Implications of the Study

The findings from this thesis have important implications for policymakers, auditors, and other stakeholders. For policymakers, the findings suggest that when assessing the potential for earnings management, it is important to consider financial experts' ownership. This can help to reduce the risk of earnings management and improve the accuracy of financial reporting. For auditors, the findings suggest that they should pay more attention to financial experts' ownership when assessing the potential for earnings management. For other stakeholders, the findings provide important information about the potential for earnings management and the importance of considering financial experts' ownership. Overall, the practical insights provided by this study have the potential to enhance audit quality and financial reporting transparency, ultimately benefiting investors and other stakeholders.

In addition, the findings of this study highlight the importance of considering

financial experts' industry knowledge, ownership, multiple directorships, and tenure when analysing their impact on earnings management and audit quality. These findings not only contribute to the existing literature on financial experts, but also have serious implications for regulators and policymakers. First, when corporate governance recommendations neglect audit committee financial and industry expertise, the findings of this study provide policymakers with valuable feedback and could be an important resource when evaluating current regulations and future governance reforms. These findings may be beneficial to the nominating committees of listed firms when it comes to appointing directors. Consequently, this study has important policy implications for determining the composition of audit committees.

The study's analysis provides timely information for policymakers and boards of directors in terms of the increasing focus on the diversity of skills and expertise present on corporate boards. This study is particularly relevant given the 2014 release of the third edition of the ASX *Corporate Governance Principles and Recommendations*, which mandates companies to assess the skills and expertise of their board members and identify any gaps. Another implication is that the findings show evidence that equity compensation can align the interests of audit committee financial expert members with those of shareholders. As a consequence, investors and regulators can be assured of the quality of financial reporting provided by companies because audit committee members will not compromise their independence.

This study analysed companies listed in Australia, responding to growing calls by academics and practitioners to examine individual jurisdictions in order to better understand the specific nuances of various corporate governance and regulatory reform measures. Since the Australian economy consists of a unique mix of large and small companies, a variety of industries, and a robust regulatory environment, it is an ideal setting for examining the impact of the personal characteristics of audit committees' financial experts on financial reporting quality and audit quality. Financial experts' personal characteristics (gender, industry expertise, multiple directorships, share ownership and tenure) can therefore be analysed comprehensively by comparing the quality of financial reporting and auditing practices across a wide range of industries. It should be noted that the Australian setting has a well-developed system of corporate governance and disclosure requirements, so researchers have a rich source of data to study

the impact of personal characteristics on financial reporting.

The research findings have notable economic and social implications. Financial experts with multiple directorships and industry knowledge are revealed as influential drivers of audit fees. Their in-depth comprehension of industry-specific financial and regulatory requirements, coupled with diverse governance experiences, empowers them to demand higher audit quality assurances from auditors, which leads to increased audit fees. This highlights their pivotal role in strengthening transparency and corporate governance mechanisms. Simultaneously, long-serving financial experts' specialised knowledge and experience contribute to more efficient and effective audits, resulting in reduced audit fees. These findings underscore the economic advantages of expertise and efficiency within audit committees, emphasising the critical function of financial experts in upholding financial integrity and enhancing economic efficiency.

This study contributes to a better understanding of the implications and benefits of audit committee tenure. Due to the lack of specific guidelines on corporate governance best practices in different jurisdictions, this thesis could help regulators and interested professionals in understanding audit committee tenure and its implications. Finally, the study documents systematic evidence that financial experts with several additional directorships are more effective in enhancing audit quality. An implication of the study's findings to stakeholders is that it is essential to appoint financial experts with a high number of additional directorships to oversee the external audit process. Therefore, the findings may encourage regulators and key stakeholders not to limit the directorships of financial experts.

8.6. Limitations of the Study

Even though this study has many strengths, it also has some limitations. First, the study relied on discretionary accrual models to detect earnings management. Previous studies have criticised these models, believing they produce biased and rough estimates of discretionary accruals, leading to mixed results (Beneish 1997; Das, Mishra & Rajib 2018; Dechow, Richardson & Tuna 2003; Kang & Sivaramakrishnan 1995; Kothari, Leone & Wasley 2005; Lo 2008). Despite these criticisms, however, a great deal of earnings management literature continues to examine earnings management practices using these models (Graham & Moore 2018; Hossain 2013; Krishnamoorthy et al. 2023;

Zalata, Tauringana & Tingbani 2018). There are likely to be no suitable alternatives. This research is not intended to address the preeminent estimation approach to detect earnings management. As discussed in Chapter Four, in order to control for misspecification bias and improve the reliability of discretionary accruals, this research used two versions of the discretionary accruals model.

Second, there are drawbacks to using audit fees measures, including the fact that their results are difficult to interpret. It is evident, for example, that audit fees capture audit effort as well as risk rewards and improved audit efficiency. This is a critical limitation since it means that an increase in audit fees cannot be unambiguously interpreted as an increase in audit quality. Another limitation is the fact that fees are based on both supply and demand factors. Consequently, researchers must interpret fee study results with great care.

The third limitation of this study is that it did not consider the use of the real earnings management model, which involves strategically timing financing, investing, and operating decisions to directly manipulate cash flow, for the identification of earnings management. Instead, the study relied on the accrual earnings management model, which refers to the discretionary use of accounting methods and provisions to manipulate earnings without directly affecting cash flow, as utilized in the current study. This distinction is highlighted by Inaam and Khamoussi (2016).

Fourth, the data for all the variables used to test the hypotheses were collected from annual reports, which restricted the amount and type of data that could be examined. The validity of the study's conclusions may be undermined by any concerns regarding data disclosure or accounting practices. Although a variety of control variables were identified and included in tests to control for additional potential influences (beyond external auditor attributes) of earnings management, it is highly probable that other factors not considered in these tests could significantly affect financial reporting quality. However, as the purpose of this study was not to examine causality, but rather the relationship between earnings management and the personal characteristics of financial experts, these impacts on the findings may be considered minor.

Fifth, although several methodologies were used to mitigate any endogenous bias, it is acknowledged that endogeneity might still have been present in some form and could

not be totally eliminated. Furthermore, in each regression model, an extensive set of variables controlling for financial performance, audit committee and board characteristics, and auditor characteristics was included. Nevertheless, it is acknowledged that it might still have been possible for unobservable differences between companies to influence the results.

Sixth, one limitation of the study is that it did not differentiate between the two types of audit committee financial experts—accounting and non-financial experts—who may possess different personal characteristics that could potentially influence the quality of financial reporting and audit quality.

Seventh and finally, the data collected for this study was derived from just one country, namely, Australia. As a consequence, the results may not be generalisable to other countries because of the real differences in legal, regulatory, cultural, and economic environments that affect the relationships between audit committee financial experts, audit fees, and earnings management. Also, the results are specific to publicly-traded companies and may not be generalisable to all companies.

It is acknowledged, therefore, that this study has limitations. However, this does not diminish the strength of the research and the potential importance of the findings.

8.7. Suggestions for Future Research

Several research avenues could be pursued in future research on this topic. First, according to the opportunistic hypothesis, managers use earnings management to mislead shareholders (DeFond & Jiambalvo 1994; Healy 1985; Krishnan, Wen & Zhao 2011), while the informative or signalling hypothesis holds that earnings management discloses managers' private information and therefore provides a better sense of a firm's future performance and facilitates efficient decision-making (Arya, Glover & Sunder 2003; Beneish, Capkun & Fridson 2013). Discretionary accruals may reflect managers' opportunistic behaviour or their discretion in signalling relevant information. Despite identifying opportunistic earnings management in the Australian context, this research does not distinguish between opportunistic and signalling earnings management. Thus, future research could examine the relationship between auditor attributes and earnings management by separating the two forms of earnings management.

A second avenue for future researchers is to address some of the limitations

highlighted in the prior sub-sections individually. This study adopted a broad definition of the term 'financial expert', and future research could differentiate between accounting and non-accounting experts. Accounting financial experts, in particular, have a deeper understanding of corporate financial statements and a better grasp of the latest accounting rules and regulations, which could potentially result in a higher quality of financial reporting. Conversely, non-financial experts may be more experienced in other aspects, such as risk management, which could lead to higher audit quality. Segregating the two types of financial experts in the study would have provided more insights into the impact of personal characteristics on financial reporting and audit quality.

In addition, this study was limited by not incorporating the use of a real earnings management model for the identification of earnings management. This could be an interesting area of further research, as it would provide an opportunity to compare and contrast the real earnings management philosophy with the findings of this study. It could also provide valuable insights into the model's efficacy and its potential application in the field. Furthermore, to assess the external validity of this study, which has a single nation focus (i.e., Australia), future research on such a comprehensive analysis of the link between financial experts' characteristics, earnings management, and audit fees, could be undertaken in another domestic, regional, or broader international setting. For instance, scholars could conduct research related to this study by choosing countries with different regulatory and institutional settings (e.g., in jurisdictions with differing levels of legal and investor protection, and different degrees of institutional ownership in corporate entities).

Third, research based on US data has generally found only accounting financial experts to be associated with lower accruals-based earnings management (Bryce, Ali & Mather 2015; Dhaliwal, Naiker & Navissi 2010; Krishnamoorthy et al. 2023; Krishnan, Wen & Zhao 2011). Similarly, future research in Australia could examine whether accounting financial experts and non-accounting financial experts on audit committees are associated with a shift from accruals-based to real earnings management.

Fourth, future research could be undertaken to explore the influence of audit committee financial experts' personal characteristics on financial and non-financial reporting aspects of listed firms in Australia.

Fifth and finally, there are a number of factors that may affect the results of these

studies, such as the method used to measure earnings management and the country or industry being investigated. The relationship between the personal characteristics of audit committee financial experts, earnings management and audit fees requires further detailed research.

8.8. Chapter Summary

This chapter has provided an overview of the research and the major conclusions that emerged. The main results were explained in appropriate detail. The study's implications and potential limitations were also highlighted, as well as avenues for future research.

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Appendix 1: A Summary of the Findings from Relevant Major Studies

The following table presents (in chronological order) a summary of the key research conducted with a focus on examining audit committee financial experts' personal characteristics in relation to financial reporting quality and audit quality.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
1	Goodwin-Stewart and Kent (2006)	Australia	Survey (401 companies)	Companies listed in 2000	The existence of an audit committee, audit committee independence, expertise, meetings and internal audit	Audit fees	The study found that the existence of an audit committee, more audit committee meetings and internal audits are associated with higher audit fees. Audit committee independence and financial expertise is not associated with audit fees. However, financial expertise is positively associated with audit fees when the meeting and independence for audit committee is low.
2	Krishnan and Visvanathan (2009)	US	929 year-observations (633 for the conservative score measure)	2000-2002	Audit committee financial expertise (accounting and non-accounting)	Accounting conservatism	The main results showed that non-accounting financial expertise or non-financial is not correlated with conservatism, while accounting financial expertise is positively and significantly associated with conservatism. Also, the study showed that accounting financial expertise is ineffective under weak corporate governance mechanisms (weak boards).

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
3	Rainsbury et al. (2009)	New Zealand	87 firms	2001	Audit committee formations	Audit fees and five accounting choices for financial reporting quality	The study was conducted for the period during which audit committee formation was unregulated. It found that audit committees had a little impact on audit quality, while no significant impact was found on financial reporting quality.
4	Baxter and Cotter (2009)	Australia	309 firms	1993-2000	Audit committee independence, size and financial expertise	Earnings quality	The main result of the study was that the formation of an audit committee restrains earnings management and increases accrual quality. However, the study found that audit committee accounting expertise increased the earnings quality but did not reduce earnings management. Audit committee independence and size do not impact earnings quality and earnings management.
5	Akhtaruddin and Haron (2010)	Malaysia	124 firms	2003	Board ownership, audit committee effectiveness, financial expertise	Corporate voluntary disclosures	The main results of the study were that board ownership is associated with lower voluntary disclosures, a weak relationship exists between board ownership and voluntary disclosures in firms with a higher ratio of independent directors on the audit committee, and that expert members on audit committees did not enhance the quality of financial reporting.
6	Thiruvadi (2012)	US	320 firms	2003	Audit committee gender	Earnings management	The study found that having females on the audit committee reduces earnings management by increasing negative (income-decreasing) discretionary accruals.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
7	Aldamen et al. (2012)	Australia	120 firm observations	2008–2009 (global financial crisis)	Audit committee independence, financial expertise, managerial experience	Firm performance	The study found that small audit committees with more experience and financial expertise are more likely to be associated with positive firm performance in the market. Audit committee chairs with long tenure negatively impact accounting performance. Accounting performance is positively related to audit committees with block holder representation, a chair of the board with years of managerial experience, and members with more external directorships.
8	Wang et al. (2015)	US	500 companies (S&P)	2000-2007	Independent board with industry expertise	Earnings management	This study found that the existence of independent directors with industry experience on audit committees is significantly associated with reducing earnings management.
9	Tanyi and Smith (2015)	US	6,535 firm-year observations	2004-2008	Audit committee chair, financial expertise	Accruals and earnings benchmarks	This study found that firms with busier audit committee chairs, or more busy financial experts, have weak monitoring over financial reporting quality.
10	Sultana (2015)	Australia	1,006 firms	2004-2012	Audit committee independence, tenure, financial expertise, meetings	Accounting conservatism	This study found that audit committee effectiveness restricts management's opportunistic behaviour and the overstatement of earnings.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
11	Bryce et al. (2015)	Australia	200 firms	2003-2008	Audit committee independence, expertise, size, meetings	Earnings management and accruals quality	The main result of the study was that audit committees are more effective in maintaining accounting quality under international financial reporting standard (IFRS) than under previous Australian GAAP. The study also found that accruals quality was not significantly enhanced after the adoption of IFRS in Australia.
12	Sultana and Van der Zahn (2015)	Australia	494 firm-year observations	2004-2008	Audit committee financial expertise (accounting and non-accounting)	Earnings conservatism	This study concluded that accounting financial expertise influences earnings conservatism more than non-accounting financial expertise. The association between accounting financial expertise and conservatism holds only when the audit committee accounting financial expert(s) is (are) independent.
13	Sultana et al. (2015)	Australia	100 firms	2004-2008	Audit committee tenure, financial expertise, independence, meetings	Audit report lag	This study found that audit committee independence, financial expertise, and tenure are associated with shorter audit report lag.
14	Ghafran and O'Sullivan (2017)	UK	991 firm-year observations	2007-2010	Audit committee financial expertise	Audit fees	This study concluded that non-accounting financial expertise is positively related to audit fees more than accounting financial expertise. Also, high levels of experience (directorships in other firms) do not impact audit fees.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
15	Carrera et al. (2017)	US	13,668 firms	2003–2010	Audit committee multiple directorship	Discretionary accruals	This study found that multiple audit committee directorships are negatively impacted by their social capital, particularly if members are financial experts.
16	Aldamen et al. (2018)	Australia	624 firms	2011	Females on the audit committee	Audit fee	This study found that there is a positive relationship between the presence of woman on audit committees and audits. Females moderate the relationships between audit fees and inherent situational factors such firm size, risk and audit complexity.
17	Appuhami (2018)	Australia	500 firms	2014 (July)	Audit committee size, meetings, financial expertise, independence	Cost of equity capital	This study found that audit committee characteristics such as size, meeting frequency and independence are significantly and negatively associated with the cost of equity capital, and there is no significant evidence that the financial qualifications of audit committee directors are associated with the cost of equity capital.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
18	Faleye et al. (2018)	US	1528 firms	2000-2009	Board industry expertise	Real earnings management, R&D investment	This study found that board industry expertise reduces R&D-based real earnings management and increases R&D investments. The increase in R&D spending is value-enhancing: firms with industry expert directors receive more patents for the same level of R&D, their R&D spending is associated with lower volatility of future earnings, and their value is higher. Industry expertise is associated with CEO termination and pay incentives that encourage R&D investments.
19	Farber et al. (2018)	US	500 firms	1998-2003	Audit committee accounting expertise	Analyst following and market liquidity	The main findings of the study indicate that analyst following has increased following the appointment of an accounting expert to the audit committee. Accounting expertise was observed to be associated with higher trading volume and lower liquidity risk, supporting incentives for greater analyst following.
20	Gull et al. (2018)	France	394 firms	2001-2010	Educational expertise and experience level for female on audit committee	Earnings management	This study concluded that female directors' attributes, such as business expertise and audit committee membership, are key to enhancing the effective monitoring of earnings management. Female CEOs and CFOs constrain earnings manipulations.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
21	Ghafran and Yasmin (2018)	UK	987 firms	2007-2010	Audit committee chair financial expertise	Audit report lag	This study found that audit committee chair experience and monitoring expertise can increase audit committee effectiveness and improve financial reporting timeliness.
22	Zalata et al. (2018)	US	5,660 year-observations	2007-2013	Audit committee female and male financial experts	Earnings management	This study found that the ratio of female financial experts on audit committees reduces earnings management more than the ratio of male financial experts.
23	Bhuiyan et al. (2020)	US	5,047 firm-year observations	2004–2010	Female directors on boards and audit committees, financial expertise	Real earnings management, audit fees	This study provided evidence that firms that include female directors on boards and audit committees tend to engage in high real earnings management activities and thus have high audit fees.
24	Bhuiyan et al. (2020)	Australia	1,500 observations	2001-2015	Audit committee members' share ownership and financial expertise	Audit report lag	This study found that audit committee members' share ownership is positively associated with audit report lag, and poor financial reporting quality and modified audit opinions introduced by external auditors mediate this relationship.
25	Alhababsah and Yekini (2021)	Jordan	1,035 observations	2009-2017	Audit committee industry expertise, legal expertise, gender diversity	Audit fees	This study concluded that industry expertise is critical to ensuring high audit quality, while legal expertise and gender diversity do not play a significant role.
26	Ud Din et al. (2021)	Pakistan	302 firms	2010-2016	Female audit committee chairs with accounting expertise, internal control	Earnings management	This study found that female accounting experts who chair audit committees enhance financial reporting quality and internal controls.

No.	Author/s (year)	Country	Sample size	Study period	Independent variables	Dependent variables	Main results
27	Zhang and Shailer (2022)	UK	1,100 observations	2013-2016	Audit committee accounting, industry expertise	External auditors, KAM	This study found that audit committee accounting and industry expertise reduces both total KAMs and KAMs unrelated to audit committee disclosures.
28	Alkebsee et al. (2022)	China	9,025 observations	2010-2017	Audit committee independence, financial expertise	Earnings management	This study found that a high proportion of independent directors on the audit committee enhances the audit committee's monitoring role over earnings quality. It found no evidence that the audit committee's financial expertise affected accrual earnings management.
29	Azizkhani et al. (2023)	Australia	11,328 for audit fees and 11,253 for discretionary accruals	2004-2017	Audit committee chairs, tenure, multiple directorships	Audit fees, auditor choice, discretionary accruals	This study found that firms with audit committee chairs with longer tenure and multiple audit committee memberships across multiple boards tend to choose Big Four and/or industry specialist auditors, pay higher audit fees, and have lower discretionary accruals.
30	Krishnamoorthy et al. (2023)	US	13,840 firm	2003-2020	Audit committee chair financial expertise	Earnings management	This study found that audit committee chair expertise significantly constrains earnings management and safeguards auditor independence, and audit committee member expertise provides little added benefit beyond the impact of audit committee chair expertise.