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## Determinants of Strategic Management Accounting Information Disclosure under a Multi-Theoretical Framework: Evidence of Listed Firms on Ghana Stock Exchange

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### **Abstract:**

*Sharing information is vital for decision-making as it helps mitigate risks by providing a wealth of relevant information. When the perceived risk is low, it ultimately reduces the costs associated with making a decision. Strategic Management Accounting Information is an important resource for decision-making. This study sought to identify the determinants of strategic management accounting information disclosure (SMAID) from multiple perspectives. The study used a non-experimental, quantitative correlational design to analyze 35 out of 36 firms listed on the Ghana Stock Exchange for a period between 2010 and 2019. The study employed a linear dynamic panel data model with a one-step system GMM. The model included lagged values of the dependent variable and accounted for unobserved panel-level effects. It was discovered that Board subcommittees have non-linear relationships with SMAID. The previous year's subcommittee negatively impacts SMAID, while the current year's has a positive influence. Past disclosures of strategic management and competitor accounting information have a positive impact on current SMAID. Past customer accounting information disclosures also positively influenced the current SMAID. The study reveals that past disclosures of strategic costing information positively and statistically affect current aggregate SMAID. It is recommended that firms establish effective board sub-committees that can provide oversight and guidance to the management team. Policymakers should consider enforcing the presence of such sub-committees to ensure high-quality and sufficient disclosure of SMAID. Maintaining a high level of SMAID from the previous year can positively impact the current year's SMAID, enabling firms to make better-informed decisions and enhance overall performance.*

**Keywords:** Strategic management accounting, multi-theoretical framework, linear dynamic panel model, competitor accounting information, strategic costing, customer accounting

### **1. Introduction**

In today's competitive business environment, accounting information plays a crucial role in corporate management. Firms that employ effective strategic management accounting (SMA) practices are more likely to excel in business operations, enhance corporate competitiveness, and achieve better overall performance, as highlighted by Oboh and Ajibolade (2017). Furthermore, Daniel et al. (2020) emphasise that SMA is a critical tool for driving long-term organizational performance.

Strategic management accounting, as described by Roslender and Hart (2003), is a comprehensive approach that combines elements of management accounting and marketing management within a strategic management framework. During the 1980s, the inadequacy of traditional management accounting was recognized by accounting professionals and academics, as noted by Shah, Malik, and Malik (2011). Researchers such as Noordin et al. (2014) found that the information derived from traditional accounting systems was often excessive, aggregated, and distorted, making it inadequate for strategic planning and decision-making. Baines and Langfield-Smith (2003) argued that management accounting information derived from financial accounting systems was limited in relevance, accuracy, and completeness. Cooper (1996) and Parker (2002) observed that management accounting had limited integration with strategic management practices. Ahlstrom and Karlsson (1996) further contended that management accounting had not effectively adapted to leverage advancements in management technologies.

In the current competitive business environment with shorter product life cycles, there is a growing demand for management accounting to adopt a strategic approach. Scholars such as Horngren et al. (2013) and Noordin et al. (2009) emphasize the need for management accounting to align with strategic objectives. Additionally, advancements in technology and the production of diverse products by firms call for improved cost and management control systems, as highlighted by Chai-Amonphaisal and Ussahawanitchakit (2010). Despite the attention given to Strategic Management Accounting (SMA) since 1981, there is still no consensus on its exact definition and the specific techniques that fall under its scope. Different authors have proposed various techniques within the 'SMA toolbox,' leading to ongoing debates.

Studies by Cinquini and Tenucci (2010) and Guilding, Cravens, and Tayles (2000) have found that the use of SMA is still limited and in the developmental stage. Therefore, there is a continuous need for research to explore the different SMA techniques and their relevance in generating information for managerial decision-making.

SMA emerged as a response to the limitations of traditional accounting methods during a time of rapid technological advancements, according to Johnson and Kaplan (1987) and Ogungbade and Oyerogba (2020). Johnson and Kaplan (1987) argue that increased competition and advancements in manufacturing technology have made traditional management accounting information obsolete in the modern business environment. Consequently, developing more advanced management accounting approaches, such as SMA, became necessary. Ogungbade and Oyerogba (2020) highlight that in the early stages of its development, accounting was primarily perceived as a means of cost determination in corporate organizations. However, since the mid-twentieth century, there has been a shift in emphasis within management accounting towards providing information for management planning and control purposes. New management accounting techniques, such as activity-based costing and the balanced scorecard, are more adaptive and sophisticated than traditional techniques, which have become obsolete. By the 1980s, there was widespread agreement that conventional management accounting procedures were no longer fit for purpose and were no longer adequate for satisfying the objectives of management decision-making (Kaplan, 1984). Management accounting procedures focus on the internal organizational environment and short-term business objectives, neglecting the external environment and long-term goals.

Simmonds (1981) introduced strategic management accounting amid the debate over the relevance of traditional accounting in the ever-changing and competitive business environment, with the belief that SMA could help resolve issues related to ineffective conventional management accounting techniques in the current competitive and manufacturing environment. While SMA had gained popularity by the late 1980s, researchers, professionals, and specialists disagreed regarding its composition. While some contended that SMA had received insufficient implementation and proof (Dmitrovic-Saponja & Suljovic, 2017), others thought it was appropriate to address the challenges at hand. According to Zainuddin and Sulaiman (2016), the reason for this is that accountants at the time lacked the advanced management accounting abilities required to undertake sophisticated approaches, necessitating further training to enable cross-functional involvement. SMA practices can be beneficial to investors, owners, and other stakeholders by providing the most suitable accounting information. The main aim of this study is to establish the determinants of strategic management accounting information disclosures (SMAID) of Ghana Stock Exchange-listed firms under a multi-theoretical framework underpinned by agency, signaling, stakeholder, and contingency theories. The study will examine the effect of board characteristics, auditor characteristics, corporate ownership characteristics, past values of strategic corporate information disclosure, past and present values of corporate governance, past strategic management accounting information disclosure, corporate social responsibility and financial performance, firm-specific variables, and macroeconomic indicators on SMAID of Ghana Stock Exchange firms.

## 2. Literature Review and Hypotheses Development

The phrase *Strategic Management Accounting* (SMA) was coined by Simmonds (1981), who defined it as the provision and analysis of management accounting data about a business and its competitors for developing and monitoring business strategy. Bromwich (1990) further defined SMA as the provision and analysis of financial information on the company's product markets, competitors' costs, and cost structure, and the monitoring of strategies of the enterprise and its competitors over some time. Langfield (2008) also said SMA is an approach that entails taking a strategic orientation to the generation, interpretation, and analysis of management accounting information and competitors' activities to provide key insights for analytical purposes. There seems to be no agreement as to the specific meaning of SMA, but all the definitions agree on the strategic approach of the subject. These definitions thus demonstrate clearly that the scope of traditional management accounting has been greatly extended (Adigbole, 2017).

For any management technique to be included in SMA, such a technique must have a strategic orientation, as strategy connotes a long-term future-oriented time frame and an externally focused perspective (Porter, 1996; Guilding et al., 2000). SMA techniques are procedures that demonstrate the following orientations: environmental (outward-looking), long-term (forward-looking), and/or market focus (Cadez & Guilding, 2008). The techniques that qualify as SMA given by previous scholars (e.g., Guilding et al., 2000; Cadex & Guilding, 2008; Fowzra, 2011) can be classified into five classes:

- Costing techniques,
- Planning, control, and performance measurement,
- Strategic decision-making,
- Competitor accounting,
- Customer accounting

The costing class includes activity-based, target, life-cycle, quality, and value-chain costing. The second SMA technique is the planning, control, and performance measurement class which has an external strategic orientation towards competitors containing this techniques-benchmarking (Cinquini & Tenucci, 2007) and integrated performance measurement (Kaplan & Norton, 1992; Nixon & Burns, 2012). The third SMA dimension is the strategic decision-making class. This encompasses strategic costing (Shank & Govindarajan, 1992), strategic pricing (Alnawaiseh, 2013; Novianty, 2015) and brand valuation (budgeting and monitoring) (Alnawaiseh, 2013). The fourth SMA dimension is competitor accounting. This comprises competitor cost assessment (Ward, 1992), competitor performance appraisal based on published financial statements and competitive position monitoring (Cinquini & Tenucci, 2010). The last SMA dimension, namely customer accounting, consists of customer profitability analysis (Zeithaml, 2000), lifetime customer value and

profitability analysis (Cadez & Guilding, 2008) and valuation of customers as assets (Cadez & Guilding, 2008; McManus, 2013).

Strategic Management Accounting Information Disclosure (SMAID) is the release of critical information that pertains to Cadez and Guilding's (2008) SMA dimensions, namely:

- Competitor accounting,
- Customer Accounting,
- Strategic costing,
- Strategic decision-making and
- Strategic planning, control & performance measurement

In the context of this study, Competitor accounting information disclosure alludes to the provision and analysis of management accounting information about each of a company's competitors associated with the competitor's resources, objectives, and competitive stance for use in developing and monitoring business strategy (Fong & Wong, 2012). Competitor accounting information disclosure involves releasing information on competitive position monitoring, competitor cost assessment and performance appraisal. Customer accounting information disclosure in this study is defined as the analysis directed to appraise profit, sales, or costs deriving from customers or customer segments (Cinquini & Tenucci, 2010). It encapsulates the release of information regarding customer profitability analysis, lifetime customer profitability analysis, and valuation. Strategic costing is defined as the use of data based on strategic and marketing information to develop and identify superior strategies that will sustain a competitive advantage (Guilding et al., 2000). In the context of this study, strategic costing information disclosure denotes the release of strategic costing data by firms in their annual reports. Strategic costing encapsulates five principal areas, namely: attribute costing, life-cycle costing, quality costing, target costing and value-chain costing. Strategic decision-making is the process of understanding the interaction of decisions and their impact on an organization to gain an advantage. It includes brand valuation/value monitoring, strategic pricing, and strategic costing. Strategic planning, control & performance measurement is the process of managing strategic plans, controlling implementation, and evaluating performance using metrics and benchmarks. In the context of this study, strategic planning, control, and performance measurement information disclosure refer to the release of data about the company's strategic plans, control mechanisms, and performance measurement metrics by listed firms in their annual reports. Strategic planning, control, and performance measurement involve two things:

- Benchmarking and
- Integrated performance measurement systems

Four theories (Agency, Signaling, Stakeholder, and Contingency) are employed in explaining the determinants of strategic management accounting information disclosures of firms. Agency theory assumes that companies resort to disclosing extra information voluntarily to decrease the agency costs that arise from the contest between managers and shareholders (Alves, Rodrigues & Canadas, 2012; Zayoud, Al-Othman & Issa, 2011). As indicated by the theoretical framework below in figure 1, the quality and quantity of strategic management accounting information disclosures of Ghana Stock Exchange-listed firms would be influenced by the extent to which the boards of directors of these firms want to minimize agency costs. According to the Signaling theory, businesses with high levels of voluntary disclosure want to reduce information asymmetries and communicate their quality and true worth by giving parties who lack knowledge additional information (Morris, 1987; Ross, 1977). According to the theoretical framework below, the desire of the boards of directors of Ghana Stock Exchange-listed companies to reduce information asymmetry will have an impact on the quantity and quality of strategic management accounting information disclosures. In order to gain social legitimacy, win societal acceptance, and establish their brands as good or responsible corporate citizens, companies, according to the Stakeholder theory, must satisfy the informational needs and interests of all stakeholders, not just shareholders (Abed, Roberts, and Hussainey, 2014) (Asamoah and colleagues, 2021). According to the theoretical framework in figure 1, the degree to which the boards of directors of Ghana Stock Exchange-listed companies want to inform their stakeholders, gain legitimacy, and give the impression that they are responsible corporate citizens in the eyes of society will affect the quality and quantity of strategic management accounting information disclosures. According to Morton and Hu (2008), the Contingency theory suggests that companies selectively reveal internal and external information that they consider vital for their organizational performance. The disclosure of strategic management accounting information by firms listed on the Ghana Stock Exchange would be influenced by the dynamics of internal and external information that companies believe has the most significant impact on their performance. The framework in figure 1 below demonstrates how the four theories determine various variables that influence SMAID.

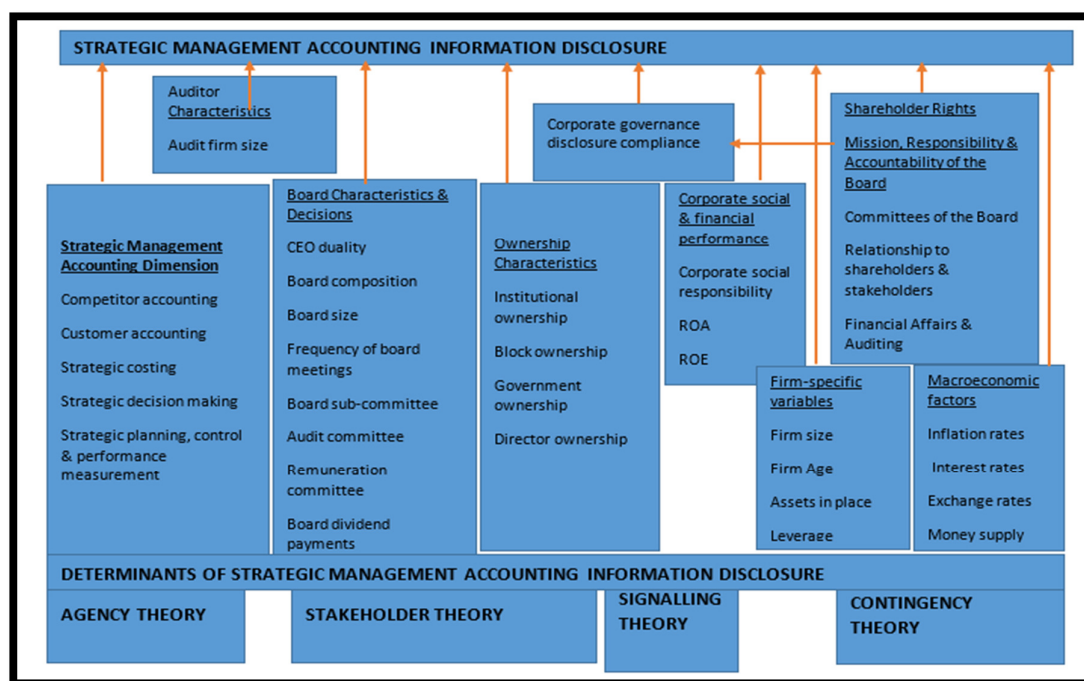


Figure 1: Theoretical Categorization of SMAID Determinants

Source: (Asiedu & Opoku 2022)

Agency theory influences Strategic Management Accounting and Auditor Characteristics dimensions to determine SMAID. Moreover, it can be noted that Auditor characteristics, Board characteristics, Ownership characteristics and Corporate Governance compliance disclosures are likely to be influenced by Stakeholder theory to affect SMAID. Empirically and theoretically, it also suggested, as indicated in the framework, that Signaling theory influences Ownership characteristics, Corporate Governance compliance disclosures, and corporate social & financial performance to determine SMAID. Finally, Firm-specific variables, Shareholder Rights Mission, Responsibility & Accountability of the Board, and Macroeconomic factors could be channels through which Contingency theory influences SMAID.

### 2.1. Effects of Board Characteristics on SMAID

The constellation of hypotheses here pertains to the effects of board characteristics on strategic management accounting information disclosure. It consists of the analysis of the effects of the board characteristics of CEO duality, independent non-executive directors (INEDs), board composition, Board Size, frequency of board meetings, board sub-committees, Audit Committee, Remuneration Committee, and board dividend payment decisions on strategic management accounting information disclosures.

Agency theory predicts that the separation of the position of Board Chairman from that of the Chief Executive Officer (CEO), the so-called concept of CEO duality, might help mitigate agency problems (Jensen & Meckling, 1976). This study conjectures that CEO duality exerts a positive influence on strategic management accounting disclosure.

- *Ha1: CEO Duality Exerts a Significant Positive Effect on Strategic Management).*

Agency theory predicts that the presence of INEDs serves as an efficient mechanism for monitoring opportunistic managerial behaviors and mitigating agency costs (Jensen & Meckling, 1976; Asamoah, 2013). This study posits that Independent non-executive directors exert a significant positive/detrimental bearing on Strategic management accounting information disclosure:

- *Ha2: Independent Non-Executive Directors Have a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

The composition of the board is considered one of the essential mechanisms for mitigating the agency problem and minimizing information asymmetry between the principal and the agent (Jensen & Meckling, 1976; Asamoah, 2013). This study conjectures that board composition has a significant positive effect on Strategic Management Accounting Disclosure:

- *Ha3: Board Composition has a Significant Positive Effect on Strategic Management Accounting Information Disclosure).*

According to agency theory (Jensen & Meckling, 1976), board size is a key determinant in monitoring its activities and decision-making. It has been argued by Laksmana (2008) that a large board leads to a higher opportunity to have a diversity of expertise in areas such as financial reporting. This study postulates that board size exerts a significant positive effect on Strategic Management Accounting Information Disclosure:

- *Ha4: Board Size Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure).*

Ntim and Osei (2011) argue that the frequency of board meetings measures the intensity of a board's activities and the quality or effectiveness of its monitoring. From a positive theoretical perspective, a higher frequency of board



meetings can help improve the quality of managerial monitoring, which positively impacts corporate performance (Ntim & Osei, 2011). This study posits that the frequency of board meetings has a significant positive effect on strategic management accounting disclosure:

- *Ha5: Frequency of Board Meetings Has a Positive Significant Effect on Strategic Management Accounting Information Disclosure.*

According to agency theory, the existence of a board sub-committee (e.g., an audit committee) can help firms to reduce agency conflicts. It is an important element for the board of directors to internally control decision-making and enhance the quality of information flow between owners and managers (Fama & Jensen, 1983; Arcay & Muiño, 2005). Empirically, Ho and Shun (2001), Barako et al. (2006), and Samaha et al. (2015) find that the presence of an audit committee has a positive impact on corporate disclosure behavior. This study conjectures that board sub-committees exert a significant positive effect on strategic management accounting disclosure:

- *Ha6: Board Sub-Committee Exert a Significant Positive Effect on Strategic Management Accounting Information Disclosure.*

According to agency theory, the existence of an audit committee can help firms to reduce agency conflicts. It is an important element for the board of directors to internally control decision-making and enhance the quality of information flow between owners and managers (Fama & Jensen, 1983; Arcay & Muiño, 2005). The study postulates that audit committees exert a significant positive effect on strategic management accounting disclosure:

- *Ha7: Audit Committee Has a Significant Positive Effect on Strategic Management Accounting Disclosure.*

Agency theory argues that the presence of a remuneration committee may mitigate agency costs and monitor opportunistic managerial behavior concerning the utilization of shareholders' resources (Asamoah, 2013). Consequently, this study conjectures that remuneration committees exert a significant positive or negative effect on strategic management accounting disclosure:

- *Ha8: Remuneration Committee Has a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

The effect of Dividends Payment on strategic management accounting information disclosure has also been noted by (Asamoah, 2013; Jensen & Meckling, 1976; Odeleye, 2017; Jiraporn, Kim & Kim, 2011). Based on the earlier literature, the study formulates the hypothesis as:

- *Ha9: Dividends Payment has a Significant Positive Effect on Strategic Management Accounting Information Disclosure.*

## 2.2. Effect of Auditor Characteristics on SMAID

The hypothesis here concerns the effect of auditor characteristics on SMAID. This is to ascertain the effect of the auditor characteristic variable (audit firm size) on MAID.

Audit firm size influences SMAID according to some previous empirical studies. Many previous empirical studies (e.g., Sundarasan et al., 2016; Adelopo, 2011; Agca & Önder, 2007; Barako, 2007; El-Deeb & Elsharkawy, 2019) report a substantial positive influence of audit firm size on SMAID. The study therefore formulates hypothesis as:

- *Hb: Audit Firm Size Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure.*

## 2.3. Effect of Corporate Ownership Characteristics

The collection of hypotheses here relates to the effect of corporate ownership characteristics, namely: institutional ownership, block ownership, government ownership, and director ownership, on SMAID.

The maiden hypothesis focuses on the effect of Institutional Ownership on strategic management accounting information disclosure. Based on literature (Smith, 1996; Strickland et al., 1996; Wahal, 1996; Boone & White, 2014), the first hypothesis related is formulated as:

- *Hc1: Institutional Ownership has a Significant Negative Effect on Strategic Management Accounting Information Disclosure.*

The second hypothesis under ownership characteristics addresses the effect of Block Ownership on strategic management accounting information disclosure. The results of the previous studies (e.g., Schadewitz & Blevins, 1998; Mitchell, Chia & Loh, 1995; McKinnon & Dalimunthe, 1993; Marston & Polei, 2004; Samaha & Dahawy, 2010, 2011) portray divers' effects on SMAID. Based on the above, the hypothesis is formulated as:

- *Hc2: Block Ownership has a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

Since many of the previous studies reported a significant positive connection between government ownership and SMAID, the third hypothesis is formulated as:

- *Hc3: Government Ownership has a Positive Significant Effect on Strategic Management Accounting Information Disclosure.*

The last hypothesis here focuses on the effect of director ownership on SMAID. The previous works (Eng & Mak, 2003; Jensen & Meckling, 1976; Wang & Hussainey, 2013) have indicated negative and positive effects on different occasions. The hypothesis is, therefore, formulated as:

- *Hc4: Director Ownership has a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

#### 2.4. Effect of Past Values of Aggregate Strategic Corporate Information Disclosures (SCIDs) on SMAID

The hypothesis here concerns the effect of past values of aggregate strategic corporate information disclosures (SCID) on SMAID. The hypothesis postulated here-under, establishes the stimuli of past and present values of aggregate SCID on present SMAID. Based on the lack of previous empirical studies, a two-tailed hypothesis is formulated as:

- *Hd: Past and present Aggregate SCID Exerts a Significant Positive or Negative Effect on Present Aggregate Strategic Management Accounting Information Disclosure.*

#### 2.5. Stimuli of Past and Present Values of Aggregate Corporate Governance Information Disclosure on SMAID

This is to report the stimuli of past and present values of aggregate corporate governance information disclosure on strategic management accounting information disclosure (SMAID). Concerning the link between these variables, the empirical literature is scarce. As a corollary, a two-tailed hypothesis is formulated as:

- *He: Past and present Aggregate Corporate Governance Information Disclosure Exerts a Significant Positive or Negative Effect on Present Aggregate Strategic Management Accounting Information Disclosure.*

#### 2.6. The Stimuli of Past Aggregate SMAID on Present Aggregate SMAID

The first sub-hypothesis addresses the effect of past competitor accounting information disclosures on current aggregate strategic management accounting information disclosure. Based on the dearth of literature establishing the link between past competitor accounting information disclosures and current aggregate SMAID, the first two-tailed hypothesis is formulated as:

- *Hf1: Past Competitor Accounting Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure.*

The second sub-hypothesis addresses the effect of past customer accounting information disclosures on current aggregate SMAID. Based on the dearth of literature establishing the link between past customer accounting information disclosures and current aggregate SMAID, a two-tailed hypothesis is formulated as:

- *H1f2: Past Customer Accounting Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure.*

The third sub-hypothesis addresses the effect of past strategic decision Information Disclosure on SMAID. Based on the drought of literature that establishes the link between past strategic decision-making information disclosure and current aggregate on SMAID, a two-tailed hypothesis is formulated as:

- *Hf3: Past Strategic Decision Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure.*

The fourth sub-hypothesis addresses the effect of past strategic costing information disclosure on strategic management accounting information disclosure. Based on the dearth in the literature that establishes the link between past strategic costing information disclosures and current aggregate SMAID, a two-tailed hypothesis is formulated as:

- *Hf4: Past Strategic Costing Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure*

The fifth sub-hypothesis focuses on the effect of past strategic planning, control, and performance measurement information disclosures on SMAID. Based on the paucity of literature on the liaison between past strategic planning, control, and performance measurement information disclosures and current SMAID, a two-tailed hypothesis is formulated as:

- *Hf5: Past Strategic Planning, Control, and Performance Measurement Information Disclosures Exert a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure.*

#### 2.7. Consequences of Corporate Social Performance and the Financial Performance Indicators of ROA and ROE on SMAID

The first sub-hypothesis pertains to the effect of corporate social performance on SMAID. Based on the erstwhile literature (Jensen & Meckling, 1976; Asamoah, 2013; Asamoah et al., 2021; Branco & Rodrigues, 2008; Khan et al., 2013), the first sub-hypothesis is formulated as:

- *Hg1: Corporate Social Performance Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure.*

The second sub-hypothesis pertains to the effect of ROA on strategic management accounting information disclosure. Based on the previous theoretical literature (Abed et al., 2014; Alves et al., 2012; Zayoud et al., 2011; Morris, 1987; Ross, 1977; Morton & Hu, 2008), the hypothesis formulated as:

- *Hg2: ROA Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure.*

The final sub-hypothesis addresses the effect of ROE on SMAID. Based on the previous theoretical argument (Abed et al., 2014; Alves et al., 2012; Zayoud et al., 2011; Morris, 1987; Ross, 1977; Morton & Hu, 2008), the third hypothesis is formulated as:

- *Hg3: ROE Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure.*

#### 2.8. The Impressions of the Firm-Specific Variables on SMAID

There are six hypotheses postulated here-under relating to finding out the impressions of the firm-specific variables of firm size, assets-in-place, leverage, liquidity, sales growth, and tax payment decisions on SMAID.

The first hypothesis focuses on the effect of firm size on SMAID. Based on the above (Abed et al., 2014; Karim et al., 2013; Uyar et al., 2013; Thinh, 2021), the first sub-hypothesis is stated as:

- *Hh1: Firm Size Has a Significant Positive Effect on Strategic Management Accounting Disclosure.*

The second hypothesis focuses on the effect of assets-in-place on SMAID. Because of the previous mixed results in that some studies argued for a positive link (Morris, 1987; Ross, 1977), while others reported a negative connection (Feyitimi, 2014) between assets-in-place and voluntary disclosures such as SMAID, a two-tailed second hypothesis is formulated as:

- *Hh2: Assets-In-Place Has a Significant Negative Effect on Strategic Management Accounting Information Disclosure.*

The third hypothesis focuses on the effect of Leverage on SMAID. The effect of leverage on SMAID is postulated as a two-tailed hypothesis in accordance with previous empirical studies viz (Jensen & Meckling, 1976; Zarzeski, 1996; Abd-El salam & Weetman, 2003; Wang et al., 2008; Allegrini & Greco, 2011) as:

- *Hh3: Leverage Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

The fourth hypothesis focuses on the effect of Liquidity on SMAID. Based on the previous arguments (Jensen & Meckling, 1976; Asamoah, 2013; Inchausti, 1997) and empirical works (Barako et al., 2006), a two-tailed hypothesis is formulated as:

- *Hh4: Liquidity has a Significant Positive or Negative Correlation with Strategic Management Accounting Disclosure.*

The fifth hypothesis focuses on the effect of Sales Growth on SMAID. Empirically, however, the relationship between sales growth and SMAID has not been studied much in the literature. Because of that, a two-tailed hypothesis is conjectured as:

- *Hh5: Sales Growth Exerts Significant Positive or Negative Effects on Strategic Management Accounting Information Disclosure.*

The last hypothesis focuses on the effect of Tax Payment on SMAID. Empirically, however, there is a paucity of literature on the effects of tax payment on SMAID. A two-tailed hypothesis is postulated as:

- *Hh6 Tax Payment Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

## 2.9. Impacts of External Macroeconomic Dynamics on SMAID

The group of hypotheses here relates to the effect of specific impacts of external macroeconomic dynamics on strategic management accounting information disclosure. There are four hypotheses postulated here-under, all of which relate to establishing the specific impacts of external macroeconomic dynamics.

The first hypothesis pertains to the effect of Inflation Rates on SMAID. Under contingency, signaling, and stakeholder theories, inflation rates are expected to induce listed firms to disclose more strategic management accounting information. However, there is a dearth of literature on the impact of inflation rates on SMAID. Consequently, a two-tailed hypothesis is formulated as:

- *Hi1: Inflation Rates Exert a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

The second hypothesis pertains to the effect of Interest Rates on SMAID. Empirically, however, there is no prior literature that has established a link between interest rates and SMAID. Consequently, it is not far-fetched to postulate a two-tailed hypothesis on the effect of interest rates on SMAID, conjectured as:

- *Hi2: Interest Rate Exerts Significant Positive or Negative Effects on Strategic Management Accounting Information Disclosure.*

The third pertains to the effect of Money Supply on SMAID. On the empirical side, there is a meager body of literature that establishes the effect of money supply on SMAID. Consequently, a two-tailed hypothesis was formulated as:

- *Hi3: Money Supply Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

The fourth hypothesis pertains to the effect of GDP on SMAID. Empirically speaking, the effect that gross domestic product (GDP) has on SMAID is scanty and not readily available in the literature. Based on the above, a two-tailed hypothesis was formulated as:

- *Hi4: GDP Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure.*

## 3. Data and Methods

### 3.1. Population and Sample

The target population of the study comprised all 36 firms listed on the Ghana Stock Exchange (GSE) at the time this study was conducted. The sample selected for the analysis comprised thirty-five (35) (see Table 1) of the 36 listed Firms, representing 97.22% of companies on the Ghana Stock Exchange (GSE). Dannex Ayrton Starwin Limited, a pharmaceutical company, was excluded as its financial reports for the study period (2010-2019) were not readily available. Therefore, it was excluded from the analysis. The minimum sample size that yields a representative sample for proportions was computed using Yamane's (1973) simplified formula:

$$n = \frac{N}{1+N(e)^2}$$

Using the conventional precision level of  $e=0.05$  or 5%, the minimum sample size of approximately 33 listed firms. However, this study used an actual sample size of 35 firms, thus increasing the minimum sample size by two and yielding a

highly representative that represents 97.22% of the total population of 36 companies quoted on the Ghana Stock Exchange (GSE).

### 3.2. Instrumentation

Strategic management accounting information disclosure (SMAID) is measured in this study by developing a disclosure index based on Cadez and Guilding's (2008) five dimensions of SMA, namely, competitor accounting, customer accounting, strategic decision-making, strategic costing, and strategic planning, control, and performance measurement. The SMAID measurement instrument, accordingly, has five parts. The total score obtainable on SMAID for each firm equals the sum of the scores obtained under competitor accounting, customer accounting, strategic costing, strategic decision-making, and strategic planning, control, and performance measurement.

### 3.3. Model Specification

Linear dynamic panel data model is applied in this study. Linear dynamic panel-data (LDP) models include lags of the dependent variable as covariates and contain unobserved panel-level effects, fixed or random. The LDP model fits a dynamic panel-data model by using the Arellano–Bond (1991) or the Arellano–Bover/Blundell–Bond (1995, 1998) estimator. The Arellano–Bond estimator is designed for datasets with many panels and few periods, and it requires that there be no autocorrelation in the idiosyncratic errors. Consider the dynamics panel-data model:

$$y_{it} = \sum_{j=1}^p \alpha_j y_{it-j} + \mathbf{X}_{it}\beta_1 + \mathbf{w}_{it}\beta_2 + v_i + \epsilon_{it} \dots \dots \dots (1)$$

Where:  $\{i = 1, \dots, N\}; t = \{1, \dots, T_i\}$

$\alpha_j, \dots, \alpha_p$  are  $p$  parameters to be estimated

$\mathbf{X}_{it}$  is a  $1 \times k_1$  vector of strictly exogenous covariates

$\beta_1 = k_1 \times 1$  vector of parameters to be estimated

$\mathbf{w}_{it}$  is a  $1 \times k_2$  vector of predetermined covariates

$\beta_2 = k_2 \times 1$  vector of parameters to be estimated

$v_i$  are the panel-level effects (which may be correlated with  $X_{it}$  or  $w_{it}$ ) and

$\epsilon_{it}$  are independently and identically distributed (*i. i. d*) or come from a low-order moving-average process, with variance  $\sigma_\epsilon^2$ .

Windmeijer (2005) derived a bias-corrected robust estimator for two-step VCEs from GMM estimators known as the WC-robust estimator.

However, the WC-robust two-step estimator requires the variance-covariance matrix of the two-step estimator to be full rank. As this is not the case in this study's panel data set, the one-step system GMM estimator is applied since its variance-covariance matrix provides correct coverage. Blundell and Bond proposed a system GMM estimator in which the moment conditions of the first difference GMM and level GMM are used jointly to avoid weak instruments and improve the efficiency of the estimator. The moment conditions used in constructing the system GMM estimator are given by:

$$E(H_i^{S'} u_i^S) = 0 \dots \dots \dots (2)$$

Where,  $u_i^S = (\Delta u_i', u_i')'$  and  $H_i^S$  is a  $2(T-2) \times (T-2)(T+1)/2$  block diagonal matrix given by:

$$H_i^S = \begin{pmatrix} H_i^p & 0 \\ 0 & H_i^L \end{pmatrix} \dots \dots \dots (3)$$

Using **equation (2)** above, the one-step system GMM estimator is calculated as:

$$\hat{\phi}^S = (y_{-1}' H^S W_G^S H^{S'} y_{-1}')^{-1} y_{-1}' H^S W_G^S H^{S'} y^S \dots \dots \dots (4)$$

where  $y_{-1}^S = [(\Delta y'_{1,-1}, y'_{1,-1}), \dots, (\Delta y'_{N,-1}, y'_{N,-1})]'$ ,  $y^S = [(\Delta y'_1, y'_1), \dots, (\Delta y'_N, y'_N)]'$ ,  $H^S = (H_1^{S'}, \dots, H_N^{S'})'$ , and

$$W_G^S = \left( \frac{1}{N} \sum_{i=1}^N H_i^{S'} G H_i^S \right)^{-1}, \dots \dots \dots (5)$$

$$G = \begin{pmatrix} D & 0 \\ 0 & I_{T-2} \end{pmatrix} \dots \dots \dots (6)$$

In ascertaining the determinants of SMAID of listed firms, it was assumed that the processes leading to the arrival of these variables may be dynamic such that current values could be affected by past realizations. Secondly, this study does not assume that there are no significant individual differences among the listed firms, a presumption that would have warranted the use of the fixed effects model. Rather, this study asserts that each listed firm is unique, especially when it comes to the dynamics that influence their SMAID. Consequently, this study rules out the fixed effects assumption in favor of the panel setup, where variation over time can be used to identify parameters. Thirdly, this study contends that the variables may be endogenous in the sense of their current realizations being influenced by their past values. Fourthly, this analysis also assumes that the idiosyncratic disturbances in the dynamic panel econometric model may have individual-specific patterns of heteroskedasticity and serial correlation, with these idiosyncratic disturbances being uncorrelated



across individuals. Fifthly, it is assumed in this analysis that some regressors can be predetermined but not strictly exogenous; that is, independent of current disturbances, as some regressors could be influenced by past ones. This justifies why lagged dependent variables are inculcated in the empirical econometric models. Finally, the use of the dynamic panel model deploying the one-step system GMM is very applicable in this analysis since the number of periods of available data,  $T$ , which is from 2010 to 2019 (10 years), is very small compared to the number of panels (35 GSE-listed firms), creating the situation of “small  $T$ , large  $N$ ” panel data set.

### 3.4. Estimation Approach

The empirical model specified to help ascertain the determinants of strategic management accounting information disclosure (SMAID) among listed firms on Ghana Stock Exchange as depicted in equation 7 below.

$$SMAID_{it} = \sum_{j=1}^p \alpha_j SMAID_{i,t-j} + \beta_{1,i} w_{it} + \beta_{2,i} X_{it} + v_i + \epsilon_{it} \dots \dots \dots (7)$$

**Where;**  $i = \{1, \dots, N\}$ ;  $t = \{1, \dots, Ti\}$

$SMAID_{it}$  = Dependent variable referring to the aggregate values of the current strategic management information disclosure index

$w_{it}$  = Vector of predetermined covariates defined as:

$COMPETACCT_{it-1}$  = Past values of competitor accounting information disclosure

$CUSTOMACCT_{it-1}$  = Past values of customer accounting information disclosure

$STRATCOSTING_{it-1}$  = Past values of strategic costing information disclosure

$STRATDECIMAKING_{it-1}$  = Past values of strategic decision-making information disclosure

$SPCPM_{it-1}$  = Past values of strategic planning, control, and performance measurement information disclosure

$X_{it}$  = Vector of strictly exogenous covariates defined as:

$CGID_{it, it-1}$  = present and past values of corporate governance information disclosure index

$SCID_{it, it-1}$  = Present and past values of strategic corporate information disclosure index

$ROA_{it, it-1}$  = Present and past values of return on assets

$ROE_{it, it-1}$  = Present and past values of return on equity

$SIZE_{it, it-1}$  = Present and past value of firm size

$LEV_{it, it-1}$  = Present and past values of firm leverage

$LIQ_{it, it-1}$  = Present and past values of firm liquidity

$SALESGROWTH_{it, it-1}$  = Present and past values of sales growth

$ASSETSINPLACE_{it, it-1}$  = Present and past values of assets-in-place

$TAX_{it, it-1}$  = Present and past values of corporate tax payment information disclosure

$CSRINDEX_{it, it-1}$  = Present and past values of aggregate corporate social responsibility disclosure index

$INFR_{it, it-1}$  = Present and past values of inflation rates

$INTR_{it, it-1}$  = Present and past values of interest rates

$MS_{it, it-1}$  = Present and past values of money supply

$GDP_{it, it-1}$  = Present and past values of gross domestic product

$DIV_{it, it-1}$  = Present and past values of the dividend payment information disclosures

$CEODUAL_{it, it-1}$  = Present and values of CEO duality situation

$INDDIRECTOR_{it, it-1}$  = Present and past values of independent, non-executive directors

$BCOMP_{it, it-1}$  = Present and past values of board composition

$BSize_{it, it-1}$  = Present and past values of board size

$BFREQMEET_{it, it-1}$  = Present and past values of frequency of board meetings

$BSUBCOMTE_{it, it-1}$  = Present and past values of board sub-committees

$DIRECTOROWNER_{it, it-1}$  = Present and past values of director ownership

$GOVTOWNER_{it, it-1}$  = Present and past values of government ownership

$INSTIOWNER_{it, it-1}$  = Present and past values of institutional ownership

$BLOCKOWNER_{it, it-1}$  = Present and past values of block ownership

$AUDITFIRMSIZE_{it, it-1}$  = Present and past values of audit firm size

$AUDITCMTTEE_{it, it-1}$  = Present and past values of the audit committee

$REMUCMTTEE_{it, it-1}$  = Present and past values of the remuneration committee

$SMAID_{i,t-j}$  = Endogenous covariates (lagged values of Strategic Management Accounting Information Disclosure

$\alpha_1, \dots, \alpha_p$  are parameters to be estimated

$\beta_{1,i}$  =  $m \times 1$  Vector of parameters to be estimated

$\beta_{2,i}$  =  $n \times 1$  vector of parameters to be estimated

$v_i$  = panel – level effects (Which may be correlated with  $X_{it}$  and  $w_{it}$ )

$\epsilon_{it}$  = i.i.d. or comes from a lower-order moving average process, with variance  $\sigma_\epsilon^2$ .

## 4. Results and Discussions

### 4.1. Regression Analysis

Feasible Least Squares (FLS) approximation and the random effects (RE) algorithm were used simultaneously with the primary estimator (Linear dynamic panel (LDP) parameter estimator) to establish the effect of the variables on SMAID. This serves as a robustness test of the primary estimator.

#### 4.1.1. Effects of Board Characteristics and Board Dividend Payment Decisions on Strategic Management Accounting Information Disclosures

##### 4.1.1.1. Effect of CEO Duality on SMAID

The fallouts from the parameter estimators establish that the veritable effect of the previous year's CEO duality is negatively insignificant on the present aggregate SMAID ( $\beta_{LDP, 2,17} = -.0150787$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,17} = -.0163366$ ;  $p > 0.05$ ;  $\beta_{RE, 2,17} = -.0163366$ ;  $p > 0.05$ ). Moreover, the effect of the present period's CEO duality on present aggregate SMAID is negatively miniature at the 95% confidence level ( $\beta_{LDP, 2,17} = .0192735$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,17} = -.001476$ ;  $p > 0.05$ ;  $\beta_{RE, 2,17} = -.001476$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent upon the above finding, the first hypothesis that *Ha1: CEO Duality Exerts a Significant Positive Effect on Strategic Management Accounting Information Disclosure* is rejected.

Arunruangsirilert and Chonglertham (2017), who explored the relationships between corporate governance characteristics and strategic management accounting (SMA) in Thailand, observed that CEO duality had a positive effect on SMAID. The apparent dichotomy between this study's finding of a negatively insignificant bearing of CEO duality on SMAID, as opposed to Arunruangsirilert and Chonglertham's (2017) observation, might be purely due to contextual factors. Moreover, the finding is consistent with previous studies, such as Cheng and Courtenay (2006), who found that CEO duality does not significantly affect SMAID in Australian firms. However, it contradicts studies such as Al-Matari et al. (2014), who found that CEO duality negatively affects SMAID in Oman.

The finding that CEO duality has a small negative effect on SMAID suggests that it does not significantly impact the quality and quantity of information released by Ghana Stock Exchange-listed firms in their annual reports. This means that companies with CEO duality can still provide stakeholders with high-quality SMAID, which can be useful in their decision-making. Policymakers can use the finding to encourage firms to provide more SMAID, regardless of their CEO duality status. Additionally, they can recommend that firms implement measures to ensure their CEOs are not overly dominant in decision-making processes, which can affect SMAID quality.

##### 4.1.1.2. Effect of Independent, Non-Executive Directors (INEDs) on SMAID

There is a positive, non-substantial impact of the current number of independent, non-executive directors on the present aggregate SMAID ( $\beta_{LDP, 2,18} = .0013037$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,18} = -.0017245$ ;  $p > 0.05$ ;  $\beta_{RE, 2,18} = -.0017245$ ;  $p > 0.05$ ). The previous year's number of independent and non-executive directors exhibits an insignificant positive impact on the current aggregate SMAID ( $\beta_{LDP, 2,18} = .0056509$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,18} = .003572$ ;  $p > 0.05$ ;  $\beta_{RE, 2,18} = .003572$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Based on the above result, the second hypothesis, which states: *Ha2: Independent Non-Executive Directors Have a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure*, is partly confirmed.

This study disagrees with Hassan and Lahyani (2020), which found a negative link between independent non-executive directors (INEDs) and voluntary disclosures. The observed difference between this study's findings and that of Hassan and Lahyani (2020) might be due to the number of listed firms employed and the fact that they used non-financial listed firms whilst this paper adopted listed firms on the Ghana Stock Exchange. Also, contextual differences might be a factor. However, the study's findings are consistent with previous studies that have found a positive but inconsequential relationship between the appointment of INEDs and SMAID (e.g., Adomako et al., 2017; Agyei-Mensah & Owusu-Ansah, 2011).

The findings of the study suggest that the presence of INEDs may not have a significant impact on SMAID. Therefore, companies may need to reconsider the appointment of INEDs and assess their role and effectiveness in ensuring transparency and accountability. Companies should implement other measures, such as strengthening internal control systems, enhancing the competence of the audit committee, and encouraging the participation of stakeholders in the decision-making process. The results also suggest that regulators and policymakers need to review and evaluate the effectiveness of the current regulations and guidelines concerning the appointment of INEDs in Ghana. Policymakers should modify the current regulations to ensure that the appointment of INEDs is not a mere formality but a meaningful contribution to corporate governance practices.

##### 4.1.1.3. Effect of Board Composition on SMAID

The impact of the current period's board composition on the present aggregate SMAID is negative and non-substantial at the 95% confidence level ( $\beta_{LDP, 2,19} = -.0006036$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,19} = .0403828$ ;  $p > 0.05$ ;  $\beta_{RE, 2,19} = .0403828$ ;  $p > 0.05$ ). The effect of the previous year's board composition on the present aggregate SMAID is negative and non-substantial at the 95% confidence level ( $\beta_{LDP, 2,19} = -.0612486$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,19} = -.0626934$ ;  $p > 0.05$ ;  $\beta_{RE, 2,19} = -.0626934$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Depending on this finding, the third hypothesis, which states that *Ha3: Board Composition has a Significant Positive Effect on Strategic Management Accounting Information Disclosure* is rejected.

Empirically, the above finding opposes an earlier work performed by Okougbo and Adebimpe (2011), who examined the association between corporate governance, company attributes, and voluntary disclosures among Nigerian listed companies. The apparent disparity between this study's finding of a negative non-significant influence and that of Okougbo and Adebimpe (2011) of a positive effect of board composition on SMAID is the number of listed companies and probably the methodology adopted. Besides, the findings of this study are consistent with previous studies that have found a limited impact of board composition on SMAID (e.g., Adomako et al., 2017; Agyei-Mensah & Owusu-Ansah, 2011). These studies suggest that other factors, such as the involvement of management in the disclosure process and the quality of communication with stakeholders, are more important in enhancing the quality and quantity of SMAID.

The above finding of the study has practical implications for the management of firms listed on the Ghana Stock Exchange. The limited impact of board composition on SMAID suggests that firms should not solely rely on the board of directors to improve the quality and quantity of information disclosed in their annual reports. Instead, firms should adopt other measures to enhance the quality of SMAID, such as increasing the involvement of management in the disclosure process and engaging in open communication with stakeholders. The study's results have significant policy implications for regulators and policymakers also. The limited impact of board composition on SMAID suggests that regulatory efforts to improve SMAID should not solely focus on board composition. Instead, regulators should consider other factors, such as the involvement of management in the disclosure process and the quality of communication with stakeholders, when designing disclosure policies.

#### 4.1.1.4. Effect of Board Size on SMAID

The effect of board size on present aggregate SMAID is positively non-substantial for the current board size at the 95% confidence level ( $\beta_{LDP, 2,20} = .0008987$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,20} = .0026521$ ;  $p > 0.05$ ;  $\beta_{RE, 2,20} = .0026521$ ;  $p > 0.05$ ). The impact of board size on present aggregate SMAID is negatively insignificant for the previous year's board size at the 95% confidence level ( $\beta_{LDP, 2,20} = -.0008418$ ;  $p > 0.05$ ;  $\beta_{FLS, 2,20} = -.0012436$ ;  $p > 0.05$ ;  $\beta_{2,20} = -.0012436$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent on this result, the fourth hypothesis, which states that *Ha4: Board Size Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure* is partially confirmed concerning the current period's board size and partly disconfirmed for the previous year's board size.

The study partially agrees with the investigation of Honggowati et al. (2017), who empirically examined the extent of corporate governance and voluntary disclosure by listed firms in Malaysia. The results suggested a significantly positive association between board size and SMAID. However, this study's finding of a negatively insignificant effect of the previous year's board size on SMAID disagrees with the investigation of Honggowati et al. (2017). Also, El-Deeb and Elsharkawy (2019) tested the impact of the corporate governance mechanisms related to the board characteristics on the forward-looking disclosures of companies listed in the Egyptian stock market. The study results revealed that board size had a positive effect on strategic management accounting disclosure. This work (El-Deeb & Elsharkawy, 2019) partly agrees with the current study's finding of a positive non-substantial effect of the current year's board size on SMAID.

Moreover, the findings of this study are consistent with previous research that has found a positive but non-substantial relationship between board size and SMAID (e.g., Adomako et al., 2017; Agyei-Mensah & Owusu-Ansah, 2011). However, the results contradict other studies that have found a significant positive relationship between board size and SMAID (e.g., Chen et al., 2010; Mohebi & Poursaedi, 2016).

The finding of this study suggests that increasing board size may not necessarily lead to improved SMAID in the short-term. However, firms may benefit from having a diverse set of directors on the board, with varying levels of expertise and experience, as this may positively influence SMAID in the long term. From a policy perspective, GSE-listed firms must maintain an "optimal board size" that would enhance SMAID. However, this also requires that further scientific studies are conducted to establish the 'minimum board size' that listed firms in a particular industry should maintain to maximize SMAID.

#### 4.1.1.5. Effect of Frequency of Board Meetings on SMAID

The effect of the current year's frequency of board meetings on present aggregate SMAID is positive and significant at the 90% and 95% confidence levels ( $\beta_{LDP, 2,21} = .0025075$ ;  $p < 0.05$ ;  $\beta_{FLS, 2,21} = .0027545$ ;  $p < 0.05$ ;  $\beta_{RE, 2,21} = .0027545$ ;  $p < 0.10$ ). The influence of the previous period's frequency of board meetings on present aggregate SMAID is negative and substantial at the 90% and 95% confidence levels ( $\beta_{LDP, 2,21} = -.004318$ ;  $p < 0.05$ ;  $\beta_{FLS, 2,21} = -.0042808$ ;  $p < 0.05$ ;  $\beta_{RE, 2,21} = -.0042808$ ;  $p < 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Contingent to the above findings, the fifth hypothesis shows that *Ha5: Frequency of Board Meetings Has a Positive Significant Effect on Strategic Management Accounting Information Disclosure* is fully confirmed for the current year and partially disconfirmed for the previous year.

The findings of Laksmana (2008) partially agree with this study's result of the significant positive effect of the frequency of board meetings in the current year on SMAID. However, this study's finding of a significant negative influence of the frequency of board meetings in the previous year on SMAID partially rejects the work of Laksmana (2008) as he found a significant positive link between the frequency of board meetings and SMAID. Ntim and Osei (2011) argue that the frequency of board meetings measures the intensity of a board's activities and the quality or effectiveness of its monitoring. From an agency's theoretical perspective, a higher frequency of board meetings can help to improve the quality of managerial monitoring, which in turn has a positive impact on corporate performance (Ntim & Osei, 2011). However, Alhazaimah et al. (2014) find that there is no significant relationship between the frequency of meetings of the board and voluntary disclosure. Alhazaimah et al. (2014) partially agree with the current study's outcome of a substantial negative effect on the frequency of board meetings in the current year and a positive, relevant effect in the previous year.

The findings suggest that firms may need to pay attention to the frequency of their board meetings to enhance the quality and quantity of their SMAID. Increasing the frequency of meetings could potentially lead to a higher level of SMAID disclosure in the current year. On the other hand, a decrease in the frequency of meetings may result in a lower level of SMAID disclosure in the following year. From a policy perspective, there is a need for the boards of the GSE-listed to maintain an “optimal frequency of board meetings” that would maximize SMAID. However, this would require that future studies ascertain the “minimum number of board meetings” that would maximize the SMAID of firms. Moreover, regulators and policymakers should consider the impact of the frequency of board meetings on SMAID disclosure when formulating governance policies. Encouraging firms to hold regular board meetings may lead to increased transparency and accountability, which could have a positive impact on the overall quality of financial reporting.

#### 4.1.1.6. Effect of Board Sub-Committees on SMAID

Amalgamating the results, we conclude that the veritable impression of the existence of board subcommittees on present aggregate SMAID may exhibit some non-linearities, with the previous year's board sub-committees' existence exerting a substantial negative effect ( $\beta_{LDP,2,22} = -.1032271$ ;  $p < 0.05$ ;  $\beta_{FLS,2,22} = -.0785279$ ;  $p < 0.05$ ;  $\beta_{RE,2,22} = -.0785279$ ;  $p < 0.05$ ) and the current year's board subcommittee demonstrating a significant positive influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,22} = .1410522$ ;  $p < 0.05$ ;  $\beta_{FLS,2,22} = .0944691$ ;  $p < 0.05$ ;  $\beta_{RE,2,22} = .0944691$ ;  $p < 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Reliant on this result, the sixth hypothesis that is, *Ha6: Board Sub-Committee Exert a Significant Positive Effect on Strategic Management Accounting Information Disclosure*, is fully confirmed for the current year's board sub-committee and completely disconfirmed for the previous year's board sub-committee.

Boubaker & Hamrouni (2013) studied the effect of corporate governance practices on the extent of voluntary disclosure in France. The results revealed that board sub-committees had a positive effect on SMAID. This agrees with this study's findings of a significant positive influence of the current year's board sub-committee on SMAID. However, this study's finding of a substantial negative effect of the previous year's board sub-committee on SMAID partially disconfirms the work of Boubaker & Hamrouni (2013), who found a positive influence of the board sub-committee on SMAID. Additionally, the study's findings are consistent with previous research that has examined the impact of board sub-committees on SMAID. For example, Muttakin et al. (2016) found that board sub-committees positively influence the level of SMAID disclosure. The study also contributes to the literature by highlighting the non-linear impact of board sub-committees on SMAID. Moreover, this study's finding of the previous year's board subcommittees' existence exerting a substantial negative effect on SMAID also agrees with other previous studies (Alhazaimah et al., 2014; Aljifri et al., 2014).

The study highlights the importance of having an effective board sub-committee in place to enhance the quality and quantity of SMAID released by firms. Firms should ensure that their board sub-committees are structured effectively to enable them to provide the necessary oversight and guidance to the management team. The study's finding has significant policy implications for regulators and policymakers.

#### 4.1.1.7. Effects of Audit Committees on SMAID

Conjoining the results, we conclude that the true effect of the existence of audit committees on present aggregate SMAID may exhibit some momentous non-linearities, with the previous year's audit sub-committee's existence exerting a substantial positive effect ( $\beta_{LDP,2,28} = .0927605$ ;  $p > 0.05$ ;  $\beta_{FLS,2,28} = .0994955$ ;  $p < 0.05$ ;  $\beta_{RE,2,28} = .0994955$ ;  $p < 0.05$ ) and the current year's audit committee demonstrating a significant negative influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,28} = -.1360019$ ;  $p < 0.05$ ;  $\beta_{FLS,2,28} = -.0913768$ ;  $p < 0.05$ ;  $\beta_{RE,2,28} = -.0913768$ ;  $p < 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Contingent to the above, the seventh hypothesis, which states that, *Ha7: Audit Committee Has a Significant Positive Effect on Strategic Management Accounting Disclosure*, is fully confirmed for the previous year's audit committee and partially confirmed for the current year's audit committee.

This study's outcome, which shows a significant positive effect of the previous year's audit committee on SMAID, partly agrees with Samaha et al. (2015), who applied meta-analysis to a sample of 64 empirical studies to identify the potential moderators of the relationship between the board, audit committee characteristics, and voluntary disclosure. The results showed that the audit committee had a positive effect on Strategic Management Accounting Disclosure.

Also, in a more recent study, Loi, Duc, and Hung (2021) explored the relationships between three important components: Corporate Governance, Audit Committee, and Strategic Management Accounting. The results revealed a positive relationship between audit committees and strategic management accounting. This study partly agrees with the significant positive effect of the previous year's audit committee on SMAID and partly disconfirms the significant negative influence of the current year's audit committee on SMAID. Ho and Shun (2001), Barako et al. (2006), and Samaha et al. (2015) find that the presence of an audit committee has a positive impact on corporate disclosure behavior. This also partially confirms the significant positive influence of the previous year's audit committee on SMAID. On the other hand, others do not find such an association (Alhazaimah et al., 2014; Aljifri et al., 2014).

The study's results indicate that companies should carefully consider the composition and activities of their audit committees, as these factors may affect SMAID. Companies may need to review their audit committees' performance, their activities, and the timing of their meetings to determine how they can best improve their SMAID practices. Regulators and policymakers should consider the role of audit committees in promoting SMAID practices. They may need to develop guidelines and best practices for audit committees to ensure that they are functioning effectively and efficiently in promoting SMAID. Moreover, Audit committees should continue to exercise their discretionary powers when it comes to the quality and quantity of SMAID and operates within the pre-determined threshold that would enhance organisational success.



#### 4.1.1.8. Effect of Remuneration Committees on SMAID

Linking the results, we again conclude that the true effect of the existence of remuneration committees on present aggregate SMAID may exhibit some inconsequential non-linearities, with the previous year's remuneration committee's existence exerting a non-substantial negative effect ( $\beta_{LDP,2,29} = .0122407$ ;  $p > 0.05$ ;  $\beta_{FLS,2,29} = -.0283143$ ;  $p > 0.05$ ;  $\beta_{RE,2,29} = -.0283143$ ;  $p > 0.05$ ) and the current year's remuneration committee demonstrating an immaterial positive influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,29} = .012907$ ;  $p > 0.05$ ;  $\beta_{FLS,2,29} = .024212$ ;  $p > 0.05$ ;  $\beta_{RE,2,29} = .024212$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Dependent on the above result, the eighth hypothesis, that is, *Ha8: Remuneration Committee Has a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure*, is partially confirmed for both current years and the previous year's remuneration committee.

Previous studies have investigated the impact of various governance mechanisms on SMAID; for instance, a study by Singh and Davidson (2019) found that board diversity positively influences SMAID. Another study by Abdelsalam et al. (2013) found that the existence of audit committees enhances the quality of financial reporting. However, there is limited research on the impact of remuneration committees on SMAID, making this study a valuable contribution to the literature.

The findings suggest that the presence of a remuneration committee may have a positive effect on SMAID in the current year but not in the previous year. Companies should consider the role of remuneration committees in enhancing SMAID and ensure that they are adequately constituted with members who possess the relevant expertise. The results of the study have significant policy implications for regulators and policymakers. Regulators should consider requiring companies to have remuneration committees that are adequately constituted and can positively impact SMAID. Policymakers should also focus on providing the necessary resources and training to remuneration committee members to enable them to carry out their roles effectively.

#### 4.1.1.9. Effect of Board Dividend Payment Decisions on SMAID

Combining the results, we again conclude that the true effect of the existence of remuneration committees on present aggregate SMAID may exhibit some paltry non-linearities, with the previous year's board dividend payment decisions exerting a non-substantial positive effect ( $\beta_{LDP,2,16} = .0004916$ ;  $p > 0.05$ ;  $\beta_{FLS,2,16} = .0084343$ ;  $p > 0.05$ ;  $\beta_{RE,2,16} = .0084343$ ;  $p > 0.05$ ) and the current year's board dividend payment decisions demonstrating an unimportant negative influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,16} = .0158174$ ;  $p < 0.10$ ;  $\beta_{FLS,2,16} = -.0050023$ ;  $p > 0.05$ ;  $\beta_{RE,2,16} = -.0050023$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent to the above finding, the final hypothesis, which states that *Ha9: Dividends Payment has a Significant Positive Effect on Strategic Management Accounting Information Disclosure* is partly confirmed for the previous year's board dividend payment decisions and concerning the current year's board dividend payment decisions, is fully rejected.

This study's result of a positively non-substantial influence between the previous year's board dividend payment and SMAID partially agrees with Jiraporn, Kim & Kim (2011), who investigated how a firm's overall quality of corporate governance affects its dividend policy. The study reported a positive correlation between dividends payment and strategic management accounting information disclosures.

However, this study's outcome of an unimportant negative influence of the current year's board dividend payment on SMAID rejects the positive influence discovered by Jiraporn, Kim & Kim (2011) on the link between dividend payments and strategic management accounting information disclosures. The observed difference might be a result of methodology. Moreover, the finding that dividend payment has a limited impact on SMAID is consistent with previous studies. For example, De George et al. (1999) found that dividend payment has a weak positive effect on information disclosure. Furthermore, the study supports previous research that highlights the importance of board sub-committees, audit committees, and remuneration committees in enhancing SMAID (Chen et al., 2010; Vafeas, 1999). However, the study contributes to the literature by examining the non-linear effect of dividend payment on SMAID.

This study's finding stated above suggests that the board's dividend payment decisions have a limited impact on SMAID. Therefore, companies should not rely solely on dividends to enhance their SMAID. Instead, they should focus on other factors that have a more substantial influence on SMAID, such as board sub-committees, audit committees, and remuneration committees. This finding can help companies to allocate their resources effectively and prioritize their efforts to improve SMAID. The study provides useful insights for policymakers and regulators to improve the disclosure practices of companies. Policymakers should consider mandating companies to disclose information related to their board sub-committees, audit committees, and remuneration committees.

#### 4.1.2. Effect of Auditor Characteristic Variable (Audit Firm Size) on SMAID

Combining the results, we conclude that the true effect of the existence of the audit firm's size (past and current) on present aggregate SMAID may exhibit some insignificant non-linearities, with the previous year's audit firm size exerting a non-substantial negative effect ( $\beta_{LDP,2,27} = -.0009585$ ;  $p > 0.05$ ;  $\beta_{FLS,2,27} = -.0043639$ ;  $p > 0.05$ ;  $\beta_{RE,2,27} = -.0043639$ ;  $p > 0.05$ ) and the current year's audit firm size demonstrating an insignificant positive influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,27} = .0065903$ ;  $p > 0.05$ ;  $\beta_{FLS,2,27} = .0129665$ ;  $p > 0.05$ ;  $\beta_{RE,2,27} = .0129665$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Reliant on the above results, the hypothesis, that is, *Hb: Audit Firm Size Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure*, is partly confirmed for the current year and fully rejected for the previous year.

This study's result of a positively non-substantial bearing of the current year's audit firm size on SMAID partly agrees with El-Deeb & Elsharkawy (2019), who sought to empirically test the impact of the corporate governance mechanisms related to the board characteristics on the forward-looking disclosures. The study results revealed that audit

firm size had a positive effect on strategic management accounting disclosure. Besides, the results of El-Deeb & Elsharkawy (2019) disagree with the findings of this study that exposes an insignificant negative influence of the previous year's audit firm size on SMAID. The apparent difference between this study's finding of an insignificant negative impact between the previous year's audit firm size and SMAID and that of El-Deeb & Elsharkawy (2019)'s outcome of a positive effect may be due to contextual parameters. Also, Abdel-Fattah (2008) asserts that companies audited by an international big audit firm will disclose more information voluntarily. Moreover, the study's findings are consistent with previous research that has shown a non-linear relationship between auditor size and financial disclosures (DeFond & Park, 1997; Vafeas, 1999). By contrast, other studies indicate insignificant positive influence (Lu & Abeysekera, 2014; Lim et al., 2008), which completely agrees with the irrelevant beneficial effect of the current year's audit firm size on SMAID in this study, while an insignificant negative relationship (Ling & Sultana, 2015; Alotaibi & Hussainey, 2016) also totally agrees with the insignificant adverse link of previous year's audit firm size on SMAID in this study.

This study's findings provide useful insights for firms and audit firms in making strategic decisions about the disclosure of information. Firms should consider the potential impact of audit firm size on SMAID when selecting an audit firm, and audit firms should be aware of the importance of their size to clients and how it may affect the information disclosed. From a policy perspective, shareholders need to demand more accountability from the board regarding the size of the audit firm they recruit and institute more monitoring mechanisms to make these firms, especially the big four auditing firms, more effective. There is also the need for listed firms to consider giving room for smaller audit firms to also audit the financial statements of the GSE-listed firms to bring in competition and assure a high level of auditor efficiency, especially concerning enhancing the quality and quantity of SMAID of the listed firms. Besides, the findings may also have implications for policymakers who regulate the accounting profession. Regulators should consider the potential impact of audit firm size on the quality and extent of disclosure of strategic management accounting information by firms.

#### 4.1.3. Effect of Corporate Ownership Characteristics on SMAID

The third objective identified specific influences of the corporate ownership characteristics on SMAID.

##### 4.1.3.1. Effect of Institutional Ownership on SMAID

Merging the results, we conclude that the true effect of institutional ownership (past and current) on present aggregate SMAID may exhibit some trifling non-linearities, with the previous year's institutional ownership structure exerting a non-substantial negative effect ( $\beta_{LDP,2,25} = -.0050915$ ;  $p>.05$ ;  $\beta_{FLS,2,25} = -.0276132$ ;  $p>.05$ ;  $\beta_{RE,2,25} = -.0276132$ ;  $p>.05$ ) and the current year's ownership structure demonstrating a non-significant positive influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,25} = .0651328$ ;  $p<.05$ ;  $\beta_{FLS,2,25} = .0549445$ ;  $p>.05$ ;  $\beta_{RE,2,25} = .0549445$ ;  $p>.05$ ) (See tables 1, 3 & 4 in the Appendix). Based on this result, the maiden ownership characteristics hypothesis, that is, *Hc1: Institutional Ownership has a Significant Negative Effect on Strategic Management Accounting Information Disclosure*, is partially confirmed for the previous year and rejected for the current year.

This study's outcome of a negative non-substantial effect of the previous year's institutional ownership on SMAID partly agrees with a note-worthy study conducted by Boone and White (2014), who examined the effects of institutional ownership on firms' information and trading environments using the annual Russell 1000/2000 index reconstitution. The study revealed that institutional ownership had a negative correlation with SMAID. However, the study of Boone and White (2014), who found a negative correlation between institutional ownership and SMAID, partly disagrees with the findings of this study which states an insignificant positive influence of the current year's institutional ownership on SMAID. The observed difference between this study's results and that of Boone and White (2014) might be due to the type of data employed. While this study used listed firms on the GSE, Boone and White (2014) adopted the annual Russell 1000/2000 index reconstitution.

The findings of this current study suggest that firms with higher levels of institutional ownership may not be motivated to disclose strategic management accounting information, especially in the previous year. However, for the current year, firms with higher levels of institutional ownership may be motivated to disclose SMAID. Managers can use this information to develop strategies that balance the interests of institutional owners and other stakeholders. From a policy perspective, GSE-listed firms need to maintain an optimal level of institutional ownership that would maximize strategic management accounting information disclosed in their annual reports. Regulators should develop policies that encourage institutional owners to play a more active role in corporate governance.

##### 4.1.3.2. Effect of Block Ownership on SMAID

Uniting the results, we conclude that the true effect of block ownership (past and current) on present aggregate SMAID may exhibit some insignificant non-linearities, with the previous year's block ownership structure exerting a non-substantial positive effect ( $\beta_{LDP,2,26} = .0148461$ ;  $p>.05$ ;  $\beta_{FLS,2,26} = .0137784$ ;  $p>.05$ ;  $\beta_{RE,2,26} = .0137784$ ;  $p>.05$ ) and the current year's ownership structure demonstrating a non-significant negative influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,26} = -.0484819$ ;  $p>.05$ ;  $\beta_{FLS,2,26} = -.0363581$ ;  $p>.05$ ;  $\beta_{RE,2,26} = -.0363581$ ;  $p>.05$ ). (See tables 1, 3 & 4 in the Appendix).

Dependent on the above outcome, the second hypothesis, which is formulated as *Hc2: Block Ownership Has a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure*, is partly confirmed for both the current year and the previous year.

This study's result of an adverse non-substantial influence of the current year's block ownership on SMAID partly agrees with the presence of a negative relationship between block-holder ownership and disclosure in developed

countries such as Finland (Schadewitz & Blevins, 1998), Australia (Mitchell, Chia & Loh, 1995; McKinnon & Dalimunthe, 1993), and Germany (Marston & Polei, 2004). In an Egyptian context, the findings of Samaha and Dahawy (2011) suggest a negative effect of block-holder ownership on voluntary corporate disclosures. The findings of this study are consistent with previous research that has shown a positive relationship between block ownership and disclosure of strategic management accounting information (e.g., Wang & Zang, 2009). Moreso, this study's results of a negative non-substantial effect of the current year's block ownership on SMAID partly disagree with the work of Honggowati et al. (2019), who found a positive relation with SMAID. The apparent dichotomy is, however, contextual since this current study was conducted in Ghana (Africa) and that of Honggowati et al. (2019) was done in Indonesia (Asia).

The findings suggest that companies with higher block ownership may disclose more strategic management accounting information. This information can be useful for investors, analysts, and other stakeholders in making investment decisions. Additionally, companies may consider implementing policies to encourage block ownership, which may help to increase transparency and disclosure. From a policy perspective, GSE-listed firms need to maintain an optimal level of block ownership that would significantly enhance SMAID in both the previous and current periods but also requires another investigation to establish this optimal block ownership level. Regulators may consider policies to encourage block ownership and institutional ownership, which may lead to greater disclosure of strategic management accounting information.

#### 4.1.3.3. Effect of Government Ownership on SMAID

Linking the results, it is concluded that the true effect of government ownership on present aggregate SMAID may exhibit some inconsequential non-linearities, with the previous year's government ownership structure exerting a non-substantial positive effect ( $\beta_{LDP,2,24} = -.0666641$ ;  $p > 0.05$ ;  $\beta_{FLS,2,24} = .0036504$ ;  $p > 0.05$ ;  $\beta_{RE,2,24} = .0036504$ ;  $p > 0.05$ ) and the current year's ownership structure demonstrating a non-significant negative influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,24} = .0476344$ ;  $p > 0.05$ ;  $\beta_{FLS,2,24} = -.0040454$ ;  $p > 0.05$ ;  $\beta_{RE,2,24} = -.0040454$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Contingent to the above results, the third hypothesis states; *Hc3 Government Ownership has a Positive Significant Effect on Strategic Management Accounting Information Disclosure* is partly confirmed for the previous year but fully rejected for the current year.

This study's result of an irrelevant positive influence of the previous year's government ownership on SMAID partly agrees with Alhazaimah et al. (2014), Ntim et al. (2012), and Khan et al. (2013) as they reported a positive association between the government ownership and voluntary disclosure. Also, Honggowati et al. (2019) sought to measure the extent of Strategic Management Accounting (SMA) disclosure and the impact of ownership structure (managerial ownership, foreign ownership, government ownership) and firm characteristics (firm size, leverage, profitability) on SMA practices in annual reports of Indonesia manufacturing companies. The findings revealed that government ownership has a positive relation with SMAID. This result partially agrees with the insignificant positive influence of the previous year's government ownership on SMAID in this current study. However, this study's result of a negative non-substantial effect of the current year's government ownership on SMAID partially disagrees with that of Honggowati et al. (2019), who found a positive link between government ownership and SMAID.

Furthermore, Ghazali and Weetman (2006) find an insignificant association which also partly agrees with the current study's result in both the current and previous years' government ownership of SMAID, while Ebrahim and Fattah (2015) report a negative association between government ownership and voluntary disclosure which partially agrees with this study's findings.

Managers need to carefully assess the impact of government ownership on SMAID before making decisions. GSE-listed firms need to maintain a minimum threshold of government ownership that would significantly maximize SMAID disclosures in both the previous and current periods. Unfortunately, this minimum threshold also requires another investigation to establish. Policymakers need to recognize that government ownership can have an impact on SMAID. Therefore, they need to ensure that government-owned firms disclose relevant strategic management accounting information to ensure transparency and accountability.

#### 4.1.3.4. Effect of Director Ownership on SMAID

Coalescing the results, it is concluded that the true effect of government ownership on present aggregate SMAID may exhibit some, albeit non-substantial non-linearities, with the previous year's government ownership structure exerting a non-substantial positive effect ( $\beta_{LDP,2,23} = .0203289$ ;  $p > 0.05$ ;  $\beta_{FLS,2,23} = .0208611$ ;  $p > 0.05$ ;  $\beta_{RE,2,23} = .0208611$ ;  $p > 0.05$ ) and the current year's ownership structure demonstrating an inconsequential negative influence of present SMAID at the 95% confidence level ( $\beta_{LDP,2,23} = -.0075031$ ;  $p > 0.05$ ;  $\beta_{FLS,2,23} = -.0156345$ ;  $p > 0.05$ ;  $\beta_{2,23} = -.0156345$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Reliant on the above result, the fourth hypothesis, that is, *Hc4: Director Ownership has a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure*, is partially confirmed for both the previous year and the current year.

This study's finding of the current year's director ownership demonstrating a non-substantial negative influence partially agree with Eng and Mak (2003) and Wang and Hussainey (2013) as they both found a negative association between director ownership and voluntary corporate disclosure. Previous research has provided some evidence that director ownership can have both positive and negative effects on SMAID. Amran et al. (2013) found that board ownership has a positive relationship with SMAID, which implies that directors with a higher ownership stake in the company are more likely to disclose information to shareholders. However, other studies have shown that director ownership may not

necessarily result in greater transparency or more accurate disclosure (Agyei-Mensah & Owusu-Ansah, 2019; Liu et al., 2021).

The practical implications of these findings suggest that corporate governance practices, such as direct ownership, may have a subtle impact on SMAID. Companies should, therefore, take a holistic approach to corporate governance by considering not only director ownership but also other factors such as board independence, CEO duality, and shareholder activism. Companies with high director ownership may be more likely to disclose information to shareholders, but they should also ensure that such information is accurate, timely, and relevant to the needs of stakeholders. Regulators should also encourage companies to implement effective monitoring and control mechanisms to prevent conflicts of interest arising from high director ownership. Companies with high director ownership should be required to provide greater transparency on the nature and extent of their ownership and their decision-making processes to ensure that they are accountable to all stakeholders.

#### 4.1.4. Effect of Past and Present Aggregate Strategic Corporate Information Disclosures on Present SMAID

The fourth objective was to analyze the stimuli of past and present values of aggregate strategic corporate information disclosures (SCID) on present strategic management accounting information disclosures.

The effect of past SCID levels on present aggregate SMAID is negatively non-substantial at the 95% confidence level ( $\beta_{LDP,2,2} = .0286546$ ;  $p > 0.05$ ;  $\beta_{FLS,2,2} = -.0201926$ ;  $p > 0.05$ ; ( $\beta_{RE,2,2} = -.0201926$ ;  $p > 0.05$ ). On the other hand, the current aggregate strategic corporate information disclosure level (SCIDL0) exerts a significant positive effect on the present aggregate SMAID ( $\beta_{LDP,2,2} = .0892429$ ;  $p < 0.10$ ;  $\beta_{FLS,2,2} = .0900222$ ;  $p < 0.05$ ;  $\beta_{RE,2,2} = .0900222$ ;  $p < 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Contingent to the above findings, hypothesis *Hd: Past and present Aggregate SCID Exerts a Significant Positive or Negative Effect on Present Aggregate Strategic Management Accounting Information Disclosure* is partly confirmed for past SCID and fully confirmed for present SCID.

The finding that current SCID levels have a positive effect on SMAID is consistent with Chenhall & Zuhair (2017). Moreover, the finding that past SCID levels do not have a significant effect on SMAID is in line with prior studies that suggest that historical information is less relevant in the current context (Langfield-Smith, 2018).

Companies should prioritize the disclosure of relevant and timely information to facilitate better decision-making. Secondly, the lack of a significant effect of past SCID levels on SMAID indicates that organizations should focus on providing current information to their stakeholders. Managers should consider the type of information disclosed and ensure that it aligns with the company's strategic goals. The findings of this study highlight the need for regulations that mandate the disclosure of relevant and timely information to promote transparency and accountability. It emphasizes the importance of aligning information disclosure policies with the strategic goals of the organization. Policymakers should recognize the limited value of historical information and focus on promoting the disclosure of current information that is more relevant to decision-making.

#### 4.1.5. Effect of Past and Present Aggregate Corporate Governance Information Disclosures on Present SMAID

The fifth objective of the study scrutinises the stimuli of past and present values of aggregate corporate governance information disclosure (CGID) on present (SMAID). The results indicate that the effect of past CGID levels on present aggregate SMAID is negatively non-substantial at the 95% confidence level ( $\beta_{LDP,2,1} = .0088115$ ;  $p > 0.05$ ;  $\beta_{FLS,2,1} = -.1842844$ ;  $p > 0.05$ ;  $\beta_{RE,2,1} = -.1842844$ ;  $p > 0.05$ ), whereas the effect of present CGID levels on current aggregate SMAID may be positively non-substantial ( $\beta_{LDP,2,1} = .035763$ ;  $p > 0.05$ ;  $\beta_{FLS,2,1} = .2273819$ ;  $p > 0.05$ ;  $\beta_{RE,2,1} = .2273819$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent to the above results, the hypothesis is, *He: Past and Present Aggregate Corporate Governance Information Disclosure Exerts a Significant Positive or Negative Effect on Present Aggregate Strategic Management Accounting Information Disclosure* is partially confirmed for both present CGID and past CGID.

Prior research has highlighted the importance of corporate governance information disclosure in enhancing the transparency and accountability of companies. Studies by Ahmed and Courtis (1999) and Xie et al. (2003) found a positive association between corporate governance disclosure and firm performance. Similarly, research by Chen et al. (2008) and Chi et al. (2009) found that corporate governance disclosure enhances investor confidence and reduces information asymmetry. The present study's findings contribute to this body of research by examining the impact of past and present aggregate CGID on present SMAID.

The findings of this present study suggest that companies should focus on improving their present CGID levels to enhance their current aggregate SMAID. This may involve adopting measures such as strengthening board oversight, improving internal controls, and enhancing transparency in financial reporting. On the other hand, the non-significant effect of past CGID levels on present SMAID suggests that companies need to ensure that their CGID practices are up-to-date and relevant to the current business environment. The non-significant effect of past CGID levels on present SMAID suggests that regulators need to ensure that disclosure requirements remain relevant and up to date. The positive but non-significant effect of present CGID levels on current aggregate SMAID suggests that policymakers should encourage companies to adopt best practices in corporate governance disclosure.

#### 4.1.6. Influences of Past Aggregate SMAID and Its Dimensions of Present Aggregate SMAID

The sixth specific objective was to establish the effects of past aggregate SMAID and their dimensions, namely,

- Competitor accounting,
- Customer accounting
- Strategic costing,



- Strategic decision-making, and
- Strategic planning, control, and performance measurement, on present strategic management accounting information disclosures.

#### 4.1.6.1. Effect of Past Aggregate SMAID on Present SMAID

The results conclusively demonstrate that past aggregate strategic management accounting information disclosure exerts a significant positive influence on current aggregate SMAID ( $\alpha_{LDP,1} = .3260404$ ;  $p < 0.05$ ;  $\alpha_{FLS,1} = .3722122$ ;  $p < 0.05$ ;  $\alpha_{RE,1} = .3722122$ ;  $p < 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Based on this result, the hypothesis: *Hf1: Past Aggregate SMAID Exerts a Significant Positive or Negative Effect on Present Aggregate Strategic Management Accounting Information Disclosure* is partly confirmed.

Liu et al. (2017) found that corporate governance disclosure enhances SMAID. In addition, Li et al. (2019) found that environmental disclosure positively influences SMAID. However, there are no previous studies that have documented the influence of past SMAID on present SMAID. The present study contributes to this body of research by examining the impact of past aggregate SMAID on present SMAID.

By maintaining a high level of SMAID in the previous year, firms can positively influence their current year's SMAID. This can help firms to make more informed decisions and improve their overall performance. Policymakers should encourage firms to maintain a high level of SMAID to improve their decision-making processes and overall performance.

#### 4.1.6.2. Effect of Past Competitor Accounting Information Disclosures on Current Aggregate SMAID

The results show that past competitor accounting information disclosures of firms listed on the GSE exert a significant positive effect on current aggregate SMAID ( $\beta_{LDP,1,1} = .0446505$ ;  $p > 0.05$ ;  $\beta_{FLS,1,1} = .0598114$ ;  $p < 0.05$ ;  $\beta_{RE,1,1} = .0598114$ ;  $p < 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Reliant on the above result, the second hypothesis, that is, *Hf2: Past Competitor Accounting Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure*, is partially confirmed.

Studies have found that corporate governance disclosure enhances investor confidence and reduces information asymmetry (Chen et al., 2008) and that environmental disclosure positively influences SMAID (Li et al., 2019). The present study contributes to this body of research by examining the impact of past competitor accounting information disclosures on current aggregate SMAID.

The results suggest that firms should pay close attention to their competitor's accounting information disclosures and use this information to make strategic decisions. For example, a firm may identify areas where its competitors are outperforming it and use this information to improve its performance. Firms may use competitor accounting information disclosures to identify new markets or investment opportunities. Regulatory bodies may consider implementing policies that require firms to disclose more detailed accounting information, including competitor information. This would enable stakeholders to make better-informed decisions and improve market efficiency.

#### 4.1.6.3. Effect of Past Customer Accounting Information Disclosures on Current Aggregate SMAID

The regression outcomes demonstrate a significant positive effect of past customer accounting information disclosures on the current aggregate SMAID of firms listed on the GSE ( $\beta_{LDP,1,2} = .1112756$ ;  $p < 0.05$ ;  $\beta_{FLS,1,2} = .1299749$ ;  $p < 0.05$ ;  $\beta_{RE,1,2} = .1299749$ ;  $p < 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Based on this result, the third hypothesis, that is, *Hf3: Past Customer Accounting Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure*, is partially confirmed.

Kim and Lee (2019) found that customer satisfaction positively influences SMAID. Moreover, Lee et al. (2020) found that customer complaints can also influence SMAID. These studies suggest that customer-related information can play a vital role in shaping SMAID.

By disclosing information about their customers, firms can enhance their SMAID, which can, in turn, help them make better decisions and improve their performance. Moreover, by providing more information about their customers, firms can increase the transparency of their operations, which can improve the trust and confidence of their stakeholders. Regulators and policymakers should encourage firms to disclose more information about their customers, as this can help improve the transparency and efficiency of the market. Moreover, policymakers should consider the impact of customer-related information on SMAID when designing policies related to accounting information disclosure.

#### 4.1.6.4. Effect of Past Strategic Costing Information Disclosure on Current Aggregate SMAID

Based on the results, it is concluded that past strategic costing information disclosures demonstrate a positive and statistically significant influence on the current aggregate SMAID ( $\beta_{LDP,1,4} = .136033$ ;  $p > 0.05$ ;  $\beta_{FLS,1,4} = .2285639$ ;  $\beta_{RE,1,4} = .2285639$ ;  $p < 0.05$ ). (See tables 1, 3, & 4 in the Appendix). Dependent on the above outcome, the fourth hypothesis, that is, *Hf4: Past Strategic Costing Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure*, is partly confirmed.

There is a dearth of literature establishing the link between past strategic costing information disclosures and current aggregate SMAID. Hence, this study's finding of a positively significant effect of past strategic costing information disclosure on the current aggregate SMAID fills the empirical pothole in this area of SMAID research.

The practical implication of this finding is that companies should increase their strategic costing information disclosure as it can positively impact their current aggregate SMAID. Companies that do not disclose strategic costing

information may lag in their SMAID disclosures and may miss out on the potential benefits of SMAID. Thus, the findings of this study suggest that strategic costing information should be an essential component of SMAID disclosures for firms. Regulatory bodies should encourage companies to disclose strategic costing information to promote better SMAID practices. Regulatory bodies could also provide guidelines for firms on how to disclose strategic costing information effectively. By promoting the disclosure of strategic costing information, regulatory bodies can improve the quality of SMAID disclosures and help companies make better strategic decisions.

#### 4.1.6.5. Effect of Past Strategic Decision-Making Information Disclosures on Current Aggregate SMAID

The regression results demonstrate a non-significant positive effect of past strategic decision-making information disclosures on the current aggregate SMAID of firms listed on the GSE ( $\beta_{LDP,1,3} = .0237813$ ;  $p > 0.05$ ;  $\beta_{FLS,1,3} = .0300908$ ;  $p > 0.05$ ;  $\beta_{RE,1,3} = .0300908$ ;  $p < 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Contingent to this result, the fifth hypothesis, *Hf5: Past Strategic Decision Information Disclosure Exerts a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure*, is partly confirmed.

Previous studies have shown mixed results on the impact of strategic decision-making information on SMAID. Chen and Roberts (2010) found that strategic decision-making information had a significant impact on SMAID. However, studies by Chong and Eggleton (2012) and Subramaniam et al. (2012) found no significant relationship between strategic decision-making information and SMAID.

GSE-listed companies need to consider the timing and relevance of strategic decision-making information disclosure. Although the study found a non-significant positive effect on current aggregate SMAID, organizations should still consider disclosing relevant strategic decision-making information to improve their decision-making and enhance performance. Organizations should also evaluate the effectiveness of their disclosure policies and assess the impact of their past disclosures on current SMAID. Regulators should consider the impact of strategic decision-making information disclosure on SMAID. The study's findings suggest that the impact of past strategic decision-making information disclosure on current SMAID is non-significant. However, regulators should still encourage organizations to disclose relevant strategic decision-making information to enhance transparency, accountability, and decision-making. Regulators should also guide the timing and relevance of strategic decision-making information disclosure.

#### 4.1.6.6. Effect of Past Strategic Planning, Control, and Performance Measurement Information Disclosures on Current Aggregate SMAID

The regression fallouts demonstrate a positive but statistically insignificant influence of past strategic planning, control, and performance measurement (SPCPLM1) ( $\beta_{LDP,1,5} = .0078973$ ;  $p > 0.05$ ;  $\beta_{FLS,1,5} = .0475917$ ;  $p > 0.05$ ;  $\beta_{RE,1,5} = .0475917$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Based on this outcome, the hypothesis, *Hf6: Past Strategic Planning, Control, and Performance Measurement Information Disclosures Exert a Significant Positive or Negative Effect on Current Strategic Management Accounting Information Disclosure*, is partially confirmed.

Chong and Eggleton (2012) found a positive and significant relationship between strategic planning information disclosure and SMAID. Similarly, Subramaniam et al. (2012) found a significant relationship between performance measurement information disclosure and SMAID. However, the present study found that the effect of past strategic planning, control, and performance measurement information disclosures on current aggregate SMAID is positive but statistically insignificant. Hence, this study's outcome is a positively minuscule bearing of past strategic planning, control, and performance measurement information disclosure and present aggregate SMAID. This, therefore, fills the empirical lacuna in this area of research.

The present study's finding suggests that disclosure of past strategic planning, control, and performance measurement information has limited practical implications for current SMAID. Managers can still benefit from disclosing this information for transparency and accountability, but they should not expect a significant impact on the current SMAID. Therefore, managers should focus on other strategies to improve their SMAID, such as increasing the accuracy and relevance of disclosed information, providing timely updates, and improving communication channels. The above findings have policy implications for GSE-listed companies, auditors, and regulators. Companies quoted on the GSE should consider the limited impact of past strategic planning, control, and performance measurement information disclosure on current SMAID when formulating disclosure policies.

#### 4.1.7. Effects of Corporate Social Performance and Financial Performance Indicators on SMAID

The seventh objective of the study was to establish the consequences of corporate social performance and the financial performance indicators of ROA and ROE on strategic management accounting information disclosures.

##### 4.1.7.1. Effect of Corporate Social Performance on SMAID

The effect of corporate social performance information disclosure level on present aggregate SMAID is positively insignificant for the current period ( $\beta_{LDP,2,11} = -.0008682$ ;  $p > 0.05$ ; ( $\beta_{FLS,2,11} = .034879$ ;  $p > 0.05$ ;  $\beta_{RE,2,11} = .034879$ ;  $p > 0.05$ ) and negatively non-substantial for the previous year at the 95% confidence level ( $\beta_{LDP,2,11} = -.0011549$ ;  $p > 0.05$ ; ( $\beta_{FLS,2,11} = -.0350361$ ;  $p > 0.05$ ;  $\beta_{RE,2,11} = -.0350361$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Depending on the above result, hypothesis *Hg1: Corporate Social Performance Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure* is partially confirmed for the current period and fully rejected for the previous period.

Previous studies have explored the relationship between corporate social performance (CSP) and financial performance (Margolis & Walsh, 2003; Orlitzky et al., 2003) and have suggested that CSP can have a positive impact on

financial performance. However, the relationship between CSP and SMAID has received less attention. Some studies suggest that CSP can have a positive effect on SMAID (Adeyemi et al., 2017; Mirza & Zaman, 2019), while others have found no significant relationship (Huang et al., 2015; Ahmad et al., 2021). The present study adds to this literature by providing new insights into the effect of CSP on SMAID. Although the effect of CSP on SMAID was found to be insignificant for the current period, the negative effect found for the previous year suggests that firms need to be careful in their CSP reporting. This is particularly important given the increasing importance of CSP to stakeholders. Firms that engage in socially responsible practices need to ensure that their reporting is accurate and reliable, as inaccurate or misleading information can damage their reputation and lead to legal and regulatory consequences. Regulators and standard-setting bodies need to ensure that reporting requirements for CSP are clear and consistent to facilitate accurate and reliable reporting. Moreover, policymakers need to consider the impact of CSP reporting on SMAID, as firms may be incentivized to engage in CSP reporting for strategic reasons rather than a genuine commitment to social responsibility.

#### 4.1.7.2. Effect of ROA and ROE on SMAID

The effect of both the present period's ROA ( $\beta_{LDP,2,3} = -.0463033$ ;  $p > 0.05$ ;  $\beta_{RE,2,3} = -.0500542$ ;  $p > 0.05$ ;  $\beta_{FLS,2,3} = -.0500542$ ;  $p < 0.10$ ) and the previous year's ROA ( $\beta_{LDP,2,3} = -.0239728$ ;  $p > 0.05$ ;  $\beta_{FLS,2,3} = -.0379493$ ;  $p > 0.05$ ;  $\beta_{RE,2,3} = -.0379493$ ;  $p > 0.05$ ) on present aggregate SMAID are negatively non-substantial at the 95% confidence level (See tables 1, 3 & 4 in the Appendix). Owing to the above finding, hypothesis, *Hg2: ROA Has a Significant Positive Effect on SMAID*, is fully rejected for both previous and past years.

Conversely, the effect of ROE on present aggregate SMAID is negatively non-substantial for the current period's ROE and positively insignificant for the previous year's ROE ( $\beta_{LDP,2,4} = -.0038985$ ;  $p < 0.10$ ;  $\beta_{FLS,2,4} = -.0022118$ ;  $p > 0.05$ ;  $\beta_{RE,2,4} = -.0022118$ ;  $p > 0.05$ ) and positively insignificant for the previous year's ROE ( $\beta_{LDP,2,4} = .0039426$ ;  $p < 0.10$ ;  $\beta_{FLS,2,4} = .0019892$ ;  $p > 0.05$ ;  $\beta_{RE,2,4} = .0019892$ ;  $p > 0.05$ ) at the 95% confidence level. (See tables 1, 3 & 4 in the Appendix). Contingent to the above result, hypothesis *Hg3: ROE Has a Significant Positive Effect on Strategic Management Accounting Information Disclosure* is partially confirmed for the previous year and fully rejected for the current period.

Margolis and Walsh (2003) found that firms with higher financial performance tend to disclose less SMAID. Orlitzky et al. (2003) also found a negative relationship between financial performance and environmental performance disclosure. However, other studies have reported positive relationships between financial performance and SMAID (Adeyemi et al., 2017; Mirza & Zaman, 2019). The inconsistent results could be attributed to methodological differences, sample size, and context.

Managers need to be aware that higher financial performance does not necessarily lead to increased SMAID. Instead, they should focus on providing relevant and reliable information that meets stakeholders' needs. Investors and other stakeholders should not rely solely on financial performance indicators to assess the quality of the company's SMAID. They should also consider other factors, such as the quality of disclosures and the company's commitment to social responsibility. Regulators should encourage companies to provide more relevant and reliable information through mandatory disclosure requirements. Policymakers should also consider the role of financial performance indicators in promoting SMAID and whether they should be used as a basis for incentives or penalties.

#### 4.1.8. Effects of Firm-Specific Variables on SMAID

The eighth objective of the study was to analyze the impressions of the firm-specific variables of firm size, assets-in-place, leverage, liquidity, sales growth, and tax payment decisions on MAID.

##### 4.1.8.1. Effect of Firm Size on SMAID

Accordingly, we deduce that the true effect of firm size on present aggregate SMAID is mixed, with the previous year's size exerting an insignificant positive effect ( $\beta_{LDP,2,5} = -.0001889$ ;  $p > 0.05$ ;  $\beta_{FLS,2,5} = .0018147$ ;  $p > 0.05$ ;  $\beta_{RE,2,5} = .0018147$ ;  $p > 0.05$ ) and the current year's size expressing a non-substantial negative impact ( $\beta_{LDP,2,5} = -.0001246$ ;  $p > 0.05$ ;  $\beta_{FLS,2,5} = -.0018293$ ;  $p > 0.05$ ;  $\beta_{RE,2,5} = -.0018293$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Owing to the above result, hypothesis *Hh1: Firm Size Has a Significant Positive Effect on Strategic Management Accounting Disclosure* is partially confirmed for the previous year and rejected for the current year.

This study's results of a positively non-substantial influence of the previous year's firm size on SMAID partly agree with Karim, Pinsker, and Robin (2013). Their study revealed that there was a positive link between SMAID and firm size. Their findings completely disagree with the current study's result, which demonstrates a non-substantial negative impact of the current year's firm size on the present aggregate SMAID. In another study, Uyar, Kilic, and Bayyurt (2013) investigated the factors that impact voluntary information disclosure levels of Turkish manufacturing companies listed in the Istanbul Stock Exchange (ISE). The study findings revealed that firm size had a direct relationship with strategic management accounting information disclosures. This study's result partially agrees with the current study's finding of an immaterial positive link between the previous year's firm size and SMAID. This study's outcome of an insignificant positive effect of the previous year's firm size on SMAID partially agrees with Thinh (2021), who researched the impact of firm characteristics on voluntary disclosure. The findings revealed a positive correlation between firm size and strategic management accounting disclosures. Nonetheless, the findings of Thinh (2021), which state a positive association between firm size and SMAID, fully disagree with this study's finding of a negative non-substantial bearing of the current year's firm size on SMAID.

Managers should be aware that the effect of firm size on SMAID may vary depending on the period considered. Therefore, they need to assess the appropriateness of their disclosure policies and practices periodically. Policymakers

should consider the potential impact of firm size on SMAID when developing regulations and guidelines aimed at improving corporate disclosure practices. The findings suggest that regulators need to be cautious when designing disclosure regulations that are based solely on firm size. Instead, they should consider other factors that may influence SMAID, such as industry, ownership structure, and corporate governance mechanisms.

#### 4.1.8.2. Effect of Assets-in-place on SMAID

The effect of assets-in-place on present aggregate SMAID is negatively non-substantial for both the previous period's assets-in-place ( $\beta_{LDP,2,9} = -.0161347$ ;  $p < 0.10$ ;  $\beta_{FLS,2,9} = -.0103605$ ;  $p > 0.05$ ;  $\beta_{RE,2,9} = -.0103605$ ;  $p > 0.05$ ) and current year's assets-in-place at the 95% confidence level ( $\beta_{LDP,2,9} = -.0123118$ ;  $p > 0.05$ ;  $\beta_{FLS,2,9} = -.0015645$ ;  $p > 0.05$ ;  $\beta_{RE,2,9} = -.0015645$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent on this outcome hypothesis *Hh2: Assets-In-Place Has a Significant Negative Effect on Strategic Management Accounting Information Disclosure* is partially confirmed for both the previous year and the current year.

This study's outcome of a negative non-substantial influence of assets-in-place for both previous and current years' on SMAID partially agrees with Feyitimi (2014), whose study revealed that assets-in-place hurt strategic management accounting information disclosures. Moreover, the negative effect of assets-in-place on SMAID reported in this study is consistent with previous research. Linsley and Shrives (2006) found that firms with higher levels of tangible assets are less likely to disclose SMAID. Furthermore, Albu et al. (2015) observed that companies with high fixed assets tend to disclose less SMAID. These findings suggest that the level of assets-in-place has a negative impact on the extent of SMAID disclosure.

Managers must understand that a high level of assets-in-place may not necessarily reflect the company's financial performance. Therefore, they should provide sufficient SMAID to communicate the company's performance accurately to stakeholders. Conversely, stakeholders should not solely rely on the level of assets-in-place when evaluating the financial performance of a company. They should seek more SMAIDs to make informed decisions. Regulators should consider the level of assets-in-place when setting disclosure requirements for firms. They should ensure that firms with high levels of assets-in-place provide sufficient SMAID to enable stakeholders to make informed decisions. This approach will enhance the transparency and accountability of firms and promote the efficient allocation of resources.

#### 4.1.8.3. Effect of Leverage on SMAID

The effect of firm leverage on present aggregate SMAID is positively insignificant for the current firm leverage ( $\beta_{LDP,2,6} = .000154$ ;  $p > 0.05$ ;  $\beta_{FLS,2,6} = .0000624$ ;  $p > 0.05$ ;  $\beta_{RE,2,6} = .0000624$ ;  $p > 0.05$ ) and negatively non-substantial for the previous year's firm leverage at 95% confidence level ( $\beta_{LDP,2,6} = -.0001027$ ;  $p > 0.05$ ;  $\beta_{FLS,2,6} = -.0001401$ ;  $p > 0.05$ ;  $\beta_{RE,2,6} = -.0001401$ ;  $p > 0.05$ ). (See tables 1, 3, & 4 in the Appendix). Depending on the above result, *hypothesis Hh3: Leverage Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure* is partially confirmed for both the current year and the previous year.

Several studies have investigated the relationship between leverage and SMAID, and the findings have been mixed. For example, Ghazali et al. (2018) found that leverage has a positive effect on SMAID, while Elsayed et al. (2019) found that leverage hurts SMAID. This suggests that the relationship between leverage and SMAID is complex and requires further investigation. Moreover, this study's finding of an adverse irrelevant bearing of the previous year's leverage on SMAID partly agrees with some previous studies (e.g., Zarzeski, 1996; Abd-Elsalam & Weetman, 2003) which support a negative relationship between the level of debt and disclosure practices. Besides, others (e.g., Wang et al., 2008; Allegrini & Greco, 2011) who also predict a positive relation between debt and voluntary disclosure show a partial agreement with this study's outcome of a beneficial non-substantial influence between firm leverage for the current period on SMAID.

For managers, the study suggests that leverage should not be considered a significant factor in determining the level of SMAID. Instead, they should focus on other factors such as firm size, industry, and profitability. For investors, the study suggests that they should not rely solely on leverage to assess the level of SMAID in a firm. Instead, they should consider other factors such as transparency, accountability, and governance. For regulators, the study suggests that they should not impose strict regulations on the level of SMAID based on leverage. Instead, they should consider other factors, such as the nature of the industry and the level of competition. The study suggests that leverage should not be used as the sole determinant for imposing regulations on SMAID. Instead, policymakers and regulators should consider other factors, such as the nature of the industry and the level of competition.

#### 4.1.8.4. Effect of Liquidity on SMAID

The effect of firm liquidity on present aggregate SMAID is negatively non-substantial for both the previous year's firm liquidity level ( $\beta_{LDP,2,7} = .0004467$ ;  $p > 0.05$ ;  $\beta_{FLS,2,7} = -.0000869$ ;  $p > 0.05$ ;  $\beta_{RE,2,7} = -.0000869$ ;  $p > 0.05$ ) and the current year's firm liquidity level at the 95% confidence level ( $\beta_{LDP,2,7} = -.0004037$ ;  $p > 0.05$ ;  $\beta_{FLS,2,7} = -.0002045$ ;  $p > 0.05$ ;  $\beta_{RE,2,7} = -.0002045$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent to the above result, *hypothesis Hh4: Liquidity has a Significant Positive or Negative Correlation with Strategic Management Accounting Disclosure* is partly confirmed for both the current year and the previous year.

Previous studies have examined the relationship between liquidity and SMAID. Rahaman et al. (2019) found a positive relationship between liquidity and SMAID in Bangladesh. Similarly, Okafor and Ezejiofor (2021) found a positive relationship between liquidity and SMAID in Nigeria. However, the current research contradicts these findings and suggests that the effect of liquidity on SMAID may be minimal. Moreover, this study's result of an adversely immaterial effect between liquidity for both the current year and the previous year partly agrees with Barako et al. (2006) as they



investigated the extent to which corporate governance attributes, ownership structure, and company characteristics influence voluntary disclosure practices. The findings revealed a negative correlation between liquidity and strategic management accounting information disclosures.

The study's findings have practical implications for firms and their managers. Managers need to be aware that the level of SMAID may not be significantly affected by their liquidity level. This implies that they may need to focus on other factors that affect SMAID, such as the level of competition in their industry or the level of stakeholder pressure. Secondly, managers may need to consider other strategies to improve their liquidity rather than focusing solely on SMAID. The findings suggest that policies aimed at improving the level of SMAID may not have a significant impact on the liquidity level of firms. Therefore, policymakers may need to consider other factors that affect liquidity when designing regulations aimed at improving the financial health of firms.

#### 4.1.8.5. Effect of Sales Growth on SMAID

The effect of sales growth on present aggregate SMAID is negatively non-substantial for both the previous year's sales growth ( $\beta_{2,8} = .0025922$ ;  $p > 0.05$ ;  $\beta_{2,8} = -.0000869$ ;  $p > 0.05$ ;  $\beta_{2,8} = -.0004739$ ;  $p > 0.05$ ) and current year's sales growth ( $\beta_{2,8} = .0000721$ ;  $p > 0.05$ ;  $\beta_{2,7} = .0008982$ ;  $p > 0.05$ ;  $\beta_{2,8} = .0008982$ ;  $p > 0.05$ ) at the 95% confidence level (See tables 1, 3 & 4 in the Appendix). Reliant on the above, hypothesis *Hh5: Sales Growth Exerts Significant Positive or Negative Effects on Strategic Management Accounting Information Disclosure* is partially confirmed for the current year and the previous year.

The findings of this study are consistent with some previous studies. Chen and Roberts (2010) found that the relationship between sales growth and SMAID is not significant, while Lu and Su (2016) found that sales growth has a negative effect on SMAID. However, some studies have found a positive relationship between sales growth and SMAID. For instance, Cheng et al. (2014) found that sales growth has a positive effect on SMAID. These conflicting results suggest that there is a need for further research to clarify the relationship between sales growth and SMAID.

Managers need to understand that increasing sales growth does not necessarily lead to an increase in SMAID. This means that managers should not focus solely on sales growth but also on other factors that may influence SMAID. Managers should consider the needs of stakeholders and the potential risks associated with their decisions when deciding what information to disclose. The above results of this study also have implications for policymakers. Policymakers should encourage firms to disclose more information to stakeholders, especially when they are experiencing high levels of sales growth. This can help to mitigate the negative effects of sales growth on SMAID. In addition, policymakers should consider developing regulations to ensure that firms disclose relevant information to stakeholders.

#### 4.1.8.6. Effect of Tax Payment Decisions on SMAID

The true effect of tax payment decisions on present aggregate SMAID is negatively non-substantial for the current year's tax payment decision ( $\beta_{LDP,2,10} = -.0173849$ ;  $p > 0.05$ ;  $\beta_{FLS,2,10} = -.0061334$ ;  $p > 0.05$ ;  $\beta_{RE,2,10} = -.0061334$ ;  $p < 0.10$ ) and negatively significant for the previous year's tax payment decision at the 95% confidence level ( $\beta_{LDP,2,10} = -.0102488$ ;  $p > 0.05$ ;  $\beta_{FLS,2,10} = -.0065687$ ;  $p < 0.10$ ;  $\beta_{RE,2,10} = -.0065687$ ;  $p < 0.10$ ) (See tables 1, 3 & 4 in the Appendix). Based on the above results, the hypothesis *Hh6: Tax Payment Decisions Exert a Significant Positive or Negative Effect on Present Strategic Management Accounting Information Disclosure* is partially confirmed.

Previous research has explored the relationship between tax payment decisions and corporate disclosures. For example, Li et al. (2020) found that firms with higher tax aggressiveness tend to have lower disclosure quality. Similarly, Mcgee et al. (2017) found that firms with a history of tax avoidance tend to provide less transparent disclosures. Our study contributes to this literature by examining the impact of tax payment decisions specifically on SMAID.

The above findings of this study have practical implications for firms and managers. Specifically, managers should be aware that their tax payment decisions may have a negative impact on SMAID. This is particularly important for firms that are concerned with maintaining a positive reputation and building trust with stakeholders, as disclosure of relevant information is crucial for building such relationships. Policymakers may need to consider the potential negative impact of tax payment decisions on SMAID when designing tax policies and regulations. Policymakers can promote transparency and build trust with stakeholders by incentivizing firms to disclose relevant information regarding their tax payment decisions.

#### 4.1.9. Influences of External Macroeconomic Dynamics on SMAID

The ninth and final objective of this study was to examine the specific impacts of external macroeconomic dynamics (inflation rates, interest rates, money supply, and gross domestic product) on SMAID.

##### 4.1.9.1. Effects of Inflation Rates on SMAID

Because the current year's inflation was eliminated from the dynamic panel, the influence of present inflation rates on the present aggregate SMAID<sup>1</sup> could not be ascertained. However, conjoin results lead us to conclude that the effect of inflation rates on present aggregate SMAID is negatively non-substantial for both the current period's inflation rates ( $\beta_{FLS,2,12} = -.0052577$ ;  $p > 0.05$ ;  $\beta_{RE,2,12} = -.0052577$ ;  $p > 0.05$ ) and the previous year's inflation rates at the 95% confidence level ( $\beta_{LDP,2,12} = -.0034658$ ;  $p > 0.05$ ;  $\beta_{FLS,2,12} = -.0033967$ ;  $p > 0.05$ ;  $\beta_{RE,2,12} = -.0033967$ ;  $p > 0.10$ ). (See tables 1, 3 & 4 in the Appendix). Based on the outcome mentioned above, hypothesis *H1i: Inflation Rates Exert a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure* is partially confirmed.

<sup>1</sup> Current year inflation (INFRL0) was eliminated from the dynamic panel model due to collinearity hence there was not STATA output.

This current study's findings are consistent with some previous research studies. A study by Fathi and Yousefikhah (2015) investigated the impact of inflation on the quality of financial reporting. The study found that inflation does not significantly affect the quality of financial reporting. Similarly, a study by Al-Asqah and Al-Sharairi (2018) examined the effect of inflation on financial performance. The study found that inflation has a non-significant impact on financial performance.

The above findings have practical implications for businesses, particularly those operating in high-inflation economies. The results suggest that inflation rates do not significantly affect SMAID. Businesses should not base their strategic decision-making solely on inflation rates. Instead, businesses should consider other factors, such as market trends, consumer preferences, and technological advancements. Governments and regulatory bodies should focus on other factors that affect SMAID, such as tax policies, environmental regulations, and labor laws.

#### 4.1.9.2. Effects of Interest Rates on SMAID

The true effect of interest rates on present aggregate SMAID is positively non-substantial for both the current year's interest rates ( $\beta_{LDP,2,13} = -.0017379$ ;  $p > 0.05$ ;  $\beta_{FLS,2,13} = .0016375$ ;  $p > 0.05$ ;  $\beta_{RE,2,13} = .0016375$ ;  $p > 0.05$ ) and the previous year's interest rates at the 95% confidence level ( $\beta_{LDP,2,13} = .0045662$ ;  $p > 0.05$ ;  $\beta_{FLS,2,13} = .0057008$ ;  $p > 0.05$ ;  $\beta_{RE,2,13} = .0057008$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Based on this outcome, hypothesis *H12: Interest Rate Exerts Significant Positive or Negative Effects on Strategic Management Accounting Information Disclosure* is partly confirmed for both the current year and the previous year.

Previous research has also examined the effect of interest rates on accounting information. A study by Basu and Waymire (2006) found that changes in interest rates have a significant effect on the value relevance of earnings. Similarly, a study by Shijin et al. (2020) found that changes in interest rates affect the financial performance of firms in the Chinese banking sector. These findings are consistent with the current study, which also found a relationship between interest rates and accounting information.

Managers should make informed decisions about when to disclose accounting information to stakeholders. If interest rates are high, managers may want to disclose information earlier to take advantage of favourable market conditions. Investors can also use the information to make informed decisions about when to invest in a company. If a company has a history of disclosing accounting information when interest rates are low, investors may want to invest in the company during those periods. Regulators (e.g., SEC of Ghana) should develop policies that encourage companies to disclose accounting information promptly by providing incentives for companies to disclose information when interest rates are low to ensure that investors have access to timely and accurate information.

#### 4.1.9.3. Effects of Money Supply on SMAID

The effect of money on present aggregate SMAID is positively non-substantial for the current year's money supply ( $\beta_{LDP,2,14} = .0036754$ ;  $p > 0.05$ ;  $\beta_{FLS,2,14} = .0000757$ ;  $p > 0.05$ ;  $\beta_{RE,2,14} = .0000757$ ;  $p > 0.05$ ) and negatively insignificant for the previous year's money supply at the 95% confidence level ( $\beta_{LDP,2,14} = -.0024683$ ;  $p > 0.05$ ;  $\beta_{FLS,2,14} = -.0029486$ ;  $p > 0.05$ ;  $\beta_{RE,2,14} = -.0029486$ ;  $p > 0.05$ ) (See tables 1, 3 & 4 in the Appendix). Contingent on this result, hypothesis *H13: Money Supply Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure* is partially confirmed for both the current year and the previous year.

There is a scarcity of previous empirical works on this subject. Therefore, this study's outcome that the effect of money supply on present aggregate SMAID is positively non-substantial for the current year's money supply and negatively insignificant for the previous year's money supply contributes to the empirical literature.

The study suggests that firms need to pay attention to the money supply and its impact on SMAID. Firms should consider the effect of the current year's money supply when disclosing financial information to stakeholders. Managers need to be aware of the impact of money supply on SMAID when making financial decisions. The study's findings suggest that the previous year's money supply does not significantly affect SMAID, indicating that firms should focus more on current money supply levels. Policymakers need to consider the impact of macroeconomic variables on firms' financial reporting practices. Regulators need to provide clear guidelines on the disclosure of financial information under different macroeconomic conditions.

#### 4.1.9.4. Effects of Gross Domestic Product on SMAID

Due to the problem of perfect collinearity, the dynamic panel model, FLS estimation, and random effects algorithm could not compute the effect of the past gross domestic product on the present aggregate SMAID<sup>2</sup>. Consequently, it is concluded that the effect of gross domestic product (GDPL0) on present aggregate SMAID is negatively non-substantial for the current year's GDP ( $\beta_{LDP,2,15} = -.00088$ ;  $p > 0.05$ ;  $\beta_{FLS,2,15} = -.0018236$ ;  $p > 0.05$ ;  $\beta_{RE,2,15} = -.0018236$ ;  $p > 0.05$ ). (See tables 1, 3 & 4 in the Appendix). Contingent on this result, hypothesis *H14: GDP Exerts a Significant Positive or Negative Effect on Strategic Management Accounting Information Disclosure* is partially confirmed for the current year.

Previous studies have shown mixed results on the impact of GDP on SMAID. Basu and Waymire (2006) found that GDP has a positive impact on SMAID, while Fathi and Yousefikhah (2015) found that GDP hurts SMAID. Therefore, the findings of this study add to the existing literature by showing that the effect of GDP on SMAID is insignificant for the current year.

<sup>2</sup> Figures for previous year's Gross Domestic Product (GDPL1) were eliminated from the analysis due to collinearity.

Practically, this finding suggests that organizations need not prioritize GDP as a factor that affects SMAID in the current year. However, it is essential to note that GDP is a critical indicator of a country's economic performance and may have an impact on SMAID in the long run. Therefore, organizations should monitor the GDP trend and adjust their SMAID disclosure strategy accordingly. From a policy perspective, governments can leverage this finding to encourage organizations to disclose relevant SMAID information. Governments can promote policies that encourage organizations to disclose non-financial information that may be relevant to stakeholders. For instance, policies that promote environmental sustainability reporting or social responsibility reporting can improve the relevance and usefulness of SMAID information to stakeholders.

## 5. Conclusions, Limitations, and Recommendations

The findings discovered from this study support our conclusion that the determinants of strategic management accounting information disclosure are multi-theoretic in nature. This must be acknowledged and factored into decision-making. Since information disclosure and its availability enhances effective decision-making, the multi-theoretic nature of information disclosure determinants must be acknowledged and factored into management decision-making. While some theoretical factors have a positive influence on information disclosure, others influence the disclosure negatively. Also, it has been discovered that some determinants exhibit a negative influence for their lags even though their effect on the current year suggests a positive one. This suggests a non-linear nature of the relationship. This study did not comprehensively study the non-linearity relationships of the variables. Future studies must utilise non-linear analytical tools to assess the effect of influence. Based on the limitations of this study, it is recommended that future research should:

- Investigate the moderating effects of industry type on the relationship between the determinants of strategic management accounting information disclosures and the level of disclosures.
- Examine the effect of CEO turnover on strategic management accounting information disclosures and how it interacts with other determinants such as board composition and ownership structure.
- Conduct a comparative analysis of strategic management accounting information disclosures between firms listed on the Ghana Stock Exchange and those listed on other stock exchanges in Africa or around the world.
- Investigate the effect of regulatory changes and reforms on strategic management accounting information disclosures among Ghana Stock Exchange-listed firms.
- Conduct a longitudinal study to examine how the level of strategic management accounting information disclosures among Ghana Stock Exchange-listed firms has changed over time.
- Explore the role of cultural and societal factors in shaping the determinants of strategic management accounting information disclosures among Ghana Stock Exchange-listed firms.
- Investigate the effect of the level of strategic management accounting information disclosures on firm value and how this varies across different ownership structures, industry types, and firm sizes.
- Examine the impact of environmental, social, and governance (ESG) factors on the determinants of strategic management accounting information disclosures among Ghana Stock Exchange-listed firms.
- Investigate the effect of technological innovation and digitization on strategic management accounting information disclosures among Ghana Stock Exchange-listed firms.

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### Appendix

|                                                            |                |                         |       |                |                      |          |
|------------------------------------------------------------|----------------|-------------------------|-------|----------------|----------------------|----------|
| Dynamic panel-data estimation                              |                | Number of obs = 250     |       |                |                      |          |
| Group variable: id                                         |                | Number of groups = 33   |       |                |                      |          |
| Time variable: Year                                        | Obs per group; | min = 2                 |       | avg = 7.575758 |                      | max = 8  |
| Number of instruments = 213                                |                | Wald chi2(32) = 5157.93 |       |                |                      |          |
| Prob > chi2 = 0.0000                                       |                |                         |       |                |                      |          |
| One-step results (Std. Err. adjusted for clustering on id) |                |                         |       |                |                      |          |
|                                                            |                | Robust                  |       |                |                      |          |
| SMAID                                                      | Coef.          | Std. Err.               | Z     | P> z           | [95% Conf. Interval] |          |
| SMAID                                                      |                |                         |       |                |                      |          |
| L2.                                                        | .3260404       | .0547381                | 5.96  | 0.000*         | .2187557             | .4333251 |
| COMPETACCT                                                 |                |                         |       |                |                      |          |
| L1.                                                        | .0446505       | .0402188                | 1.11  | 0.267          | -.0341769            | .1234779 |
| CUSTOMACCT                                                 |                |                         |       |                |                      |          |
| L1.                                                        | .1112756       | .0420751                | 2.64  | 0.008*         | .0288098             | .1937413 |
| STRATDECIMAKING                                            |                |                         |       |                |                      |          |
| L1.                                                        | .0237813       | .0403955                | 0.59  | 0.556          | -.0553924            | .1029551 |
| STRATCOSTING                                               |                |                         |       |                |                      |          |
| L1.                                                        | .136033        | .0953016                | 1.43  | 0.153          | -.0507548            | .3228208 |
| SPCPM                                                      |                |                         |       |                |                      |          |
| L1.                                                        | .0078973       | .0437831                | 0.18  | 0.857          | -.0779159            | .0937105 |
| CGDI                                                       |                |                         |       |                |                      |          |
| L0                                                         | .035763        | .3360737                | 0.11  | 0.915          | -.6229293            | .6944553 |
| L1.                                                        | .0088115       | .3494975                | 0.03  | 0.980          | -.6761909            | .6938139 |
| SCID                                                       |                |                         |       |                |                      |          |
| L0                                                         | .0892429       | .0525797                | 1.70  | 0.090**        | -.0138113            | .1922972 |
| L1.                                                        | .0286546       | .0262012                | 1.09  | 0.274          | -.0226988            | .0800081 |
| ROA                                                        |                |                         |       |                |                      |          |
| L0                                                         | -.0463033      | .0339245                | -1.36 | 0.172          | -.1127942            | .0201875 |
| L1.                                                        | -.0239728      | .029314                 | -0.82 | 0.413          | -.0814271            | .0334816 |
| ROE                                                        |                |                         |       |                |                      |          |
| L0                                                         | -.0038985      | .0022875                | -1.70 | 0.088**        | -.0083819            | .0005849 |
| L1.                                                        | .0039426       | .0022198                | 1.78  | 0.076**        | -.0004081            | .0082933 |
| SIZE                                                       |                |                         |       |                |                      |          |
| L0                                                         | -.0001246      | .0018155                | -0.07 | 0.945          | -.0036828            | .0034337 |
| L1.                                                        | -.0001889      | .0018843                | -0.10 | 0.920          | -.0038821            | .0035042 |
| LEV                                                        |                |                         |       |                |                      |          |
| L0                                                         | .000154        | .0002738                | 0.56  | 0.574          | -.0003825            | .0006906 |
| L1.                                                        | -.0001027      | .0001264                | -0.81 | 0.416          | -.0003504            | .000145  |
| LIQ                                                        |                |                         |       |                |                      |          |
| L0                                                         | -.0004037      | .0011619                | -0.35 | 0.728          | -.002681             | .0018737 |
| L1.                                                        | .0004467       | .0007255                | 0.62  | 0.538          | -.0009752            | .0018686 |



|               |           |          |       |         |           |           |
|---------------|-----------|----------|-------|---------|-----------|-----------|
| SALESGROWTH   |           |          |       |         |           |           |
| L0            | .0000721  | .0047306 | 0.02  | 0.988   | -.0091997 | .0093438  |
| L1.           | .0025922  | .0022754 | 1.14  | 0.255   | -.0018676 | .0070519  |
| ASSETSINPLACE |           |          |       |         |           |           |
| L0            | -.0123118 | .0136361 | -0.90 | 0.367   | -.0390382 | .0144145  |
| L1.           | -.0161347 | .0091483 | -1.76 | 0.078** | -.034065  | .0017957  |
|               |           |          |       |         |           |           |
| TAX           |           |          |       |         |           |           |
| L0            | -.0173849 | .0166598 | -1.04 | 0.297   | -.0500375 | .0152676  |
| L1.           | -.0102488 | .0086484 | -1.19 | 0.236   | -.0271994 | .0067017  |
| CSRINDEX      |           |          |       |         |           |           |
| L0            | -.0008682 | .0378654 | -0.02 | 0.982   | -.0750829 | .0733466  |
| L1.           | -.0011549 | .0374151 | -0.03 | 0.975   | -.0744872 | .0721773  |
| INFR          |           |          |       |         |           |           |
| L1.           | -.0034658 | .0040989 | -0.85 | 0.398   | -.0114996 | .0045679  |
| INTR          |           |          |       |         |           |           |
| L0            | -.0017379 | .00204   | -0.85 | 0.394   | -.0057361 | .0022604  |
| L1.           | .0045662  | .0042771 | 1.07  | 0.286   | -.0038168 | .0129493  |
| MS            |           |          |       |         |           |           |
| L0            | .0036754  | .0024975 | 1.47  | 0.141   | -.0012195 | .0085704  |
| L1.           | -.0024683 | .0027835 | -0.89 | 0.375   | -.0079239 | .0029874  |
| GDP(L0)       | -.00088   | .0006611 | -1.33 | 0.183   | -.0021758 | .0004158  |
| DIV           |           |          |       |         |           |           |
| L0            | .0158174  | .0084223 | 1.88  | 0.060** | -.00069   | .0323248  |
| L1.           | .0004916  | .0082759 | 0.06  | 0.953   | -.0157288 | .016712   |
| CEODUAL       |           |          |       |         |           |           |
| L0            | -.0150787 | .0297852 | -0.51 | 0.613   | -.0734567 | .0432993  |
| L1.           | .0192735  | .0155288 | 1.24  | 0.215   | -.0111623 | .0497093  |
| INDDIRECTOR   |           |          |       |         |           |           |
| L0            | .0013037  | .0051131 | 0.25  | 0.799   | -.0087177 | .0113252  |
| L1.           | .0056509  | .0050661 | 1.12  | 0.265   | -.0042785 | .0155803  |
| BCOMP         |           |          |       |         |           |           |
| L0            | -.0006036 | .0468972 | -0.01 | 0.990   | -.0925203 | .0913132  |
| L1.           | -.0612486 | .0476839 | -1.28 | 0.199   | -.1547073 | .03221    |
| BSIZE         |           |          |       |         |           |           |
| L0            | .0008987  | .002047  | 0.44  | 0.661   | -.0031133 | .0049108  |
| L1.           | -.0008418 | .0018378 | -0.46 | 0.647   | -.0044439 | .0027603  |
| BFREQMEET     |           |          |       |         |           |           |
| L0            | .0025075  | .0011829 | 2.12  | 0.034*  | .000189   | .004826   |
| L1.           | -.004318  | .0007986 | -5.41 | 0.000*  | -.0058832 | -.0027528 |
| BSUBCOMTTE    |           |          |       |         |           |           |
| L0            | .1410522  | .0635773 | 2.22  | 0.027*  | .016443   | .2656614  |
| L1.           | -.1032271 | .0518574 | -1.99 | 0.047*  | -.2048657 | -.0015885 |
| DIRECTOROWNER |           |          |       |         |           |           |
| L0            | -.0075031 | .0162387 | -0.46 | 0.644   | -.0393303 | .0243242  |
| L1.           | .0203289  | .0186731 | 1.09  | 0.276   | -.0162697 | .0569275  |
| GOVTOWNER     |           |          |       |         |           |           |
| L0            | .0476344  | .0514237 | 0.93  | 0.354   | -.0531542 | .1484229  |
| L1.           | -.0666641 | .0474487 | -1.40 | 0.160   | -.1596619 | .0263336  |
| INSTIOWNER    |           |          |       |         |           |           |
| L0            | .0651328  | .0211136 | 3.08  | 0.002*  | .0237509  | .1065147  |
| L1.           | -.0050915 | .0256635 | -0.20 | 0.843   | -.055391  | .045208   |
| BLOCKOWNER    |           |          |       |         |           |           |
| L0            | -.0484819 | .0296032 | -1.64 | 0.101   | -.1065031 | .0095393  |
| L1.           | .0148461  | .0355133 | 0.42  | 0.676   | -.0547587 | .0844509  |
| AUDITFIRMSIZE |           |          |       |         |           |           |
| L0            | .0065903  | .0200927 | 0.33  | 0.743   | -.0327906 | .0459713  |
| L1.           | -.0009585 | .0191805 | -0.05 | 0.960   | -.0385516 | .0366346  |
| AUDITCMTEE    |           |          |       |         |           |           |
| L0            | -.1360019 | .0626654 | -2.17 | 0.030*  | -.2588239 | -.01318   |
| L1.           | .0927605  | .0644085 | 1.44  | 0.150   | -.0334779 | .218999   |

| REMUCMTEE |          |          |      |       |           |          |
|-----------|----------|----------|------|-------|-----------|----------|
| L0        | .012907  | .0309705 | 0.42 | 0.677 | -.0477941 | .0736082 |
| L1.       | .0122407 | .0289062 | 0.42 | 0.672 | -.0444145 | .0688959 |
| _cons     | .0759351 | .1291916 | 0.59 | 0.557 | -.1772758 | .329146  |

Table 1: Linear Dynamic Panel-Data Estimation

(Estimation Results on Determinants of Strategic Management Accounting Information Disclosure)

Note: note: L2.SMAID dropped from dgmiv() because of collinearity; LD.SMAID dropped from lgmmiv() because of collinearity. Also, L.SMAID, INFR, and LD.GDP dropped because of collinearity.

Instruments for differenced equation: GMM-type: L(2/).SMAID L(2/).L2D2.SMAID L(2/).LD.COMPETACCT L(2/).L.COMPETACCT L(2/).LD.CUSTOMACCT L(2/).L.CUSTOMACCT L(2/).LD.STRATDECIMAKING L(2/).L.STRATDECIMAKING L(2/).LD.STRATCOSTING L(2/).L.STRATCOSTING L(2/).LD.SPCPM L(2/).L.SPCPM L(2/).LD.SCID L(2/).L.SCID L(2/).LD.CGDI L(2/).L.CGDI

Instruments for the level equation: GMM-type: L2D.COMPETACCT L2D.CUSTOMACCT L2D.STRATDECIMAKING L2D.STRATCOSTING L2D.SPCPM L2D.SCID L2D.CGDI

Standard: \_cons\*P-values are significant at 1% and 5% levels. \*\*P-values significant at 10% level.

| Order | Z       | Prob>z  |
|-------|---------|---------|
| 1     | -2.8875 | 0.0039* |
| 2     | 0.94627 | 0.3440  |

Table 2: Arellano-Bond Test for Zero Autocorrelation in First-Differences Errors Strategic Management Accounting Corporate Information Disclosure Dynamic Panel-Data Regression

H<sub>0</sub>: No autocorrelation

P-values are significant at 1% and 5% and 10% level

| Coefficients: generalized least squares |           |           |                         |         |                      |          |
|-----------------------------------------|-----------|-----------|-------------------------|---------|----------------------|----------|
| Panels: homoskedastic                   |           |           |                         |         |                      |          |
| Correlation: no autocorrelation         |           |           |                         |         |                      |          |
| Estimated co-variances = 1              |           |           | Number of obs = 250     |         |                      |          |
| Estimated autocorrelations = 0          |           |           | Number of groups = 33   |         |                      |          |
| Estimated coefficients = 64             |           |           | Obs per group:          |         |                      |          |
| min = 2 avg = 7.575758 max = 8          |           |           | Wald chi2(63) = 2587.02 |         |                      |          |
| Log likelihood = 466.9818               |           |           | Prob > chi2 = 0.0000    |         |                      |          |
| SMAID                                   | Coef.     | Std. Err. | z                       | P> z    | [95% Conf. Interval] |          |
| SMAID                                   |           |           |                         |         |                      |          |
| L2.                                     | .3722122  | .0517553  | 7.19                    | 0.000*  | .2707738             | .4736506 |
| COMPETACCT                              |           |           |                         |         |                      |          |
| L1.                                     | .0598114  | .0206093  | 2.90                    | 0.004*  | .0194179             | .1002049 |
| CUSTOMACCT                              |           |           |                         |         |                      |          |
| L1.                                     | .1299749  | .0256295  | 5.07                    | 0.000*  | .079742              | .1802079 |
| STRATDECIMAKING                         |           |           |                         |         |                      |          |
| L1.                                     | .0300908  | .0295432  | 1.02                    | 0.308   | -.0278128            | .0879945 |
| STRATCOSTING                            |           |           |                         |         |                      |          |
| L1.                                     | .2285639  | .0890609  | 2.57                    | 0.010*  | .0540079             | .40312   |
| SPCPM                                   |           |           |                         |         |                      |          |
| L1.                                     | .0475917  | .0293791  | 1.62                    | 0.105   | -.0099902            | .1051736 |
| CGDI                                    |           |           |                         |         |                      |          |
| L0                                      | .2273819  | .2066897  | 1.10                    | 0.271   | -.1777224            | .6324862 |
| L1.                                     | -.1842844 | .2145698  | -0.86                   | 0.390   | -.6048336            | .2362647 |
| SCID                                    |           |           |                         |         |                      |          |
| L0                                      | .0900222  | .0265474  | 3.39                    | 0.001*  | .0379903             | .1420541 |
| L1.                                     | -.0201926 | .0269566  | -0.75                   | 0.454   | -.0730265            | .0326413 |
| ROA                                     |           |           |                         |         |                      |          |
| L0                                      | -.0500542 | .029658   | -1.69                   | 0.091** | -.1081829            | .0080744 |
| L1.                                     | -.0379493 | .0282214  | -1.34                   | 0.179   | -.0932622            | .0173636 |
| ROE                                     |           |           |                         |         |                      |          |
| L0                                      | -.0022118 | .0019187  | -1.15                   | 0.249   | -.0059724            | .0015489 |
| L1.                                     | .0019892  | .001913   | 1.04                    | 0.298   | -.0017602            | .0057386 |
| SIZE                                    |           |           |                         |         |                      |          |
| L0                                      | -.0018293 | .0013338  | -1.37                   | 0.170   | -.0044435            | .0007849 |
| L1.                                     | .0018147  | .0013566  | 1.34                    | 0.181   | -.0008441            | .0044735 |
| LEV                                     |           |           |                         |         |                      |          |
| L0                                      | .0000624  | .0000899  | 0.69                    | 0.488   | -.0001138            | .0002385 |
| L1.                                     | -.0001401 | .0000898  | -1.56                   | 0.119   | -.000316             | .0000359 |
| LIQ                                     |           |           |                         |         |                      |          |

|               |           |           |       |         |           |           |
|---------------|-----------|-----------|-------|---------|-----------|-----------|
| L0            | -.0002045 | .0006968  | -0.29 | 0.769   | -.0015701 | .0011612  |
| L1.           | -.0000869 | .0006924  | -0.13 | 0.900   | -.001444  | .0012703  |
| SALESGROWTH   |           |           |       |         |           |           |
| L0            | .0008982  | .0036583  | 0.25  | 0.806   | -.006272  | .0080683  |
| L1.           | -.0004739 | .0034063  | -0.14 | 0.889   | -.0071501 | .0062024  |
| ASSETSINPLACE |           |           |       |         |           |           |
| L0            | -.0015645 | .0077786  | -0.20 | 0.841   | -.0168102 | .0136813  |
| L1.           | -.0103605 | .0075511  | -1.37 | 0.170   | -.0251604 | .0044394  |
| TAX           |           |           |       |         |           |           |
| L0            | -.0061334 | .0034321  | -1.79 | 0.074** | -.0128602 | .0005935  |
| L1.           | -.0065687 | .0034371  | -1.91 | 0.056** | -.0133052 | .0001679  |
| CSRINDEX      |           |           |       |         |           |           |
| L0            | .034879   | .0312746  | 1.12  | 0.265   | -.0264181 | .096176   |
| L1.           | -.0350361 | .0317488  | -1.10 | 0.270   | -.0972626 | .0271904  |
| INFR          |           |           |       |         |           |           |
| L0            | -.0052577 | .0165599  | -0.32 | 0.751   | -.0377146 | .0271992  |
| L1.           | -.0033967 | .0041609  | -0.82 | 0.414   | -.0115519 | .0047585  |
| INTR          |           |           |       |         |           |           |
| L0            | .0016375  | .0084348  | 0.19  | 0.846   | -.0148945 | .0181695  |
| L1.           | .0057008  | .0081     | 0.70  | 0.482   | -.0101748 | .0215764  |
| MS            |           |           |       |         |           |           |
| L0            | .0000757  | .0081916  | 0.01  | 0.993   | -.0159795 | .016131   |
| L1.           | -.0029486 | .0067555  | -0.44 | 0.662   | -.0161892 | .010292   |
| GDP           |           |           |       |         |           |           |
| L0            | -.0018236 | .0027976  | -0.65 | 0.514   | -.0073067 | .0036595  |
| L1.           | 0         | (omitted) |       |         |           |           |
| DIV           |           |           |       |         |           |           |
| L0            | -.0050023 | .0075896  | -0.66 | 0.510   | -.0198776 | .0098731  |
| L1.           | .0084343  | .0078557  | 1.07  | 0.283   | -.0069626 | .0238312  |
| CEODUAL       |           |           |       |         |           |           |
| L0            | -.0163366 | .0192028  | -0.85 | 0.395   | -.0539734 | .0213002  |
| L1.           | -.001476  | .0199421  | -0.07 | 0.941   | -.0405618 | .0376098  |
| INDDIRECTOR   |           |           |       |         |           |           |
| L0            | -.0017245 | .0046084  | -0.37 | 0.708   | -.0107567 | .0073077  |
| L1.           | .003572   | .0045895  | 0.78  | 0.436   | -.0054232 | .0125672  |
| BCOMP         |           |           |       |         |           |           |
| L0            | .0403828  | .0399507  | 1.01  | 0.312   | -.037919  | .1186847  |
| L1.           | -.0626934 | .0393738  | -1.59 | 0.111   | -.1398647 | .0144779  |
| BSIZE         |           |           |       |         |           |           |
| L0            | .0026521  | .0020603  | 1.29  | 0.198   | -.001386  | .0066901  |
| L1.           | -.0012436 | .0020087  | -0.62 | 0.536   | -.0051805 | .0026934  |
| BFREQMEET     |           |           |       |         |           |           |
| L0            | .0027545  | .0012429  | 2.22  | 0.027*  | .0003184  | .0051906  |
| L1.           | -.0042808 | .0013684  | -3.13 | 0.002*  | -.0069627 | -.0015988 |
| BSUBCOMTTE    |           |           |       |         |           |           |
| L0            | .0944691  | .0284186  | 3.32  | 0.001*  | .0387697  | .1501685  |
| L1.           | -.0785279 | .026737   | -2.94 | 0.003*  | -.1309315 | -.0261244 |
| DIRECTOROWNER |           |           |       |         |           |           |
| L0            | -.0156345 | .0142487  | -1.10 | 0.273   | -.0435614 | .0122924  |
| L1.           | .0208611  | .0150252  | 1.39  | 0.165   | -.0085877 | .0503098  |
| GOVTOWNER     |           |           |       |         |           |           |
| L0            | -.0040454 | .0234014  | -0.17 | 0.863   | -.0499113 | .0418204  |
| L1.           | .0036504  | .0232822  | 0.16  | 0.875   | -.0419818 | .0492826  |
| INSTIOWNER    |           |           |       |         |           |           |
| L0            | .0549445  | .0413516  | 1.33  | 0.184   | -.0261033 | .1359922  |
| L1.           | -.0276132 | .0406653  | -0.68 | 0.497   | -.1073158 | .0520894  |
| BLOCKOWNER    |           |           |       |         |           |           |
| L0            | -.0363581 | .045413   | -0.80 | 0.423   | -.1253661 | .0526498  |
| L1.           | .0137784  | .0433719  | 0.32  | 0.751   | -.0712289 | .0987857  |
| AUDITFIRMSIZE |           |           |       |         |           |           |
| L0            | .0129665  | .0174603  | 0.74  | 0.458   | -.0212552 | .0471881  |

|            |           |          |       |        |           |           |
|------------|-----------|----------|-------|--------|-----------|-----------|
| L1.        | -.0043639 | .017475  | -0.25 | 0.803  | -.0386143 | .0298864  |
| AUDITCMTEE |           |          |       |        |           |           |
| L0         | -.0913768 | .0335104 | -2.73 | 0.006* | -.1570559 | -.0256977 |
| L1.        | .0994955  | .0324825 | 3.06  | 0.002* | .035831   | .16316    |
| REMUCMTEE  |           |          |       |        |           |           |
| L0         | .024212   | .0188187 | 1.29  | 0.198  | -.0126719 | .0610959  |
| L1.        | -.0283143 | .018646  | -1.52 | 0.129  | -.0648597 | .0082311  |
| _cons      | .2692472  | .68557   | 0.39  | 0.695  | -1.074445 | 1.61294   |

Table 3: Cross-Sectional Time-Series FGLS Regression Results on Determinants of Strategic Management Accounting Information Disclosure  
P-values are significant at 1% and 5% levels. \*\*P-values Significant at the 10% Level

| Random-effects GLS regression |           | Number of obs = 250        |       |                      |                      |          |
|-------------------------------|-----------|----------------------------|-------|----------------------|----------------------|----------|
| Group variable: id            |           | Number of groups = 33      |       |                      |                      |          |
| R-sq:                         |           | Obs per group:             |       |                      |                      |          |
| within = 0.3465               |           | min = 2                    |       |                      |                      |          |
| between = 0.9917              |           | avg = 7.6                  |       |                      |                      |          |
| overall = 0.9119              |           | max = 8                    |       |                      |                      |          |
| Wald chi2(63) = 1924.75       |           | corr(u_i, X) = 0 (assumed) |       | Prob > chi2 = 0.0000 |                      |          |
| SMAID                         | Coef.     | Std. Err.                  | z     | P> z                 | [95% Conf. Interval] |          |
| SMAID                         |           |                            |       |                      |                      |          |
| L2.                           | .3722122  | .0600023                   | 6.20  | 0.000*               | .2546098             | .4898146 |
| COMPETACCT                    |           |                            |       |                      |                      |          |
| L1.                           | .0598114  | .0238934                   | 2.50  | 0.012*               | .0129813             | .1066415 |
| CUSTOMACCT                    |           |                            |       |                      |                      |          |
| L1.                           | .1299749  | .0297135                   | 4.37  | 0.000*               | .0717375             | .1882124 |
| STRATDECIMAKING               |           |                            |       |                      |                      |          |
| L1.                           | .0300908  | .0342508                   | 0.88  | 0.380                | -.0370396            | .0972213 |
| STRATCOSTING                  |           |                            |       |                      |                      |          |
| L1.                           | .2285639  | .1032525                   | 2.21  | 0.027*               | .0261928             | .4309351 |
| SPCPM                         |           |                            |       |                      |                      |          |
| L1.                           | .0475917  | .0340605                   | 1.40  | 0.162                | -.0191657            | .1143491 |
| CGDI                          |           |                            |       |                      |                      |          |
| L0                            | .2273819  | .2396251                   | 0.95  | 0.343                | -.2422746            | .6970385 |
| L1.                           | -.1842844 | .2487609                   | -0.74 | 0.459                | -.6718469            | .303278  |
| SCID                          |           |                            |       |                      |                      |          |
| L0                            | .0900222  | .0307776                   | 2.92  | 0.003*               | .0296991             | .1503453 |
| L1.                           | -.0201926 | .031252                    | -0.65 | 0.518                | -.0814454            | .0410602 |
| ROA                           |           |                            |       |                      |                      |          |
| L0                            | -.0500542 | .034384                    | -1.46 | 0.145                | -.1174456            | .0173371 |
| L1.                           | -.0379493 | .0327184                   | -1.16 | 0.246                | -.1020762            | .0261776 |
| ROE                           |           |                            |       |                      |                      |          |
| L0                            | -.0022118 | .0022245                   | -0.99 | 0.320                | -.0065717            | .0021481 |
| L1.                           | .0019892  | .0022178                   | 0.90  | 0.370                | -.0023576            | .0063361 |
| SIZE                          |           |                            |       |                      |                      |          |
| L0                            | -.0018293 | .0015464                   | -1.18 | 0.237                | -.0048601            | .0012015 |
| L1.                           | .0018147  | .0015727                   | 1.15  | 0.249                | -.0012678            | .0048972 |
| LEV                           |           |                            |       |                      |                      |          |
| L0                            | .0000624  | .0001042                   | 0.60  | 0.549                | -.0001418            | .0002666 |
| L1.                           | -.0001401 | .0001041                   | -1.35 | 0.178                | -.0003441            | .000064  |
| LIQ                           |           |                            |       |                      |                      |          |
| L0                            | -.0002045 | .0008078                   | -0.25 | 0.800                | -.0017877            | .0013788 |
| L1.                           | -.0000869 | .0008028                   | -0.11 | 0.914                | -.0016603            | .0014865 |
| SALESGROWTH                   |           |                            |       |                      |                      |          |
| L0                            | .0008982  | .0042413                   | 0.21  | 0.832                | -.0074146            | .0092109 |
| L1.                           | -.0004739 | .0039491                   | -0.12 | 0.904                | -.0082139            | .0072662 |
| ASSETSINPLACE                 |           |                            |       |                      |                      |          |
| L0                            | -.0015645 | .0090181                   | -0.17 | 0.862                | -.0192396            | .0161107 |
| L1.                           | -.0103605 | .0087544                   | -1.18 | 0.237                | -.0275188            | .0067977 |
| TAX                           |           |                            |       |                      |                      |          |
| L0                            | -.0061334 | .003979                    | -1.54 | 0.123                | -.0139321            | .0016654 |
| L1.                           | -.0065687 | .0039848                   | -1.65 | 0.099**              | -.0143786            | .0012413 |
| CSRINDEX                      |           |                            |       |                      |                      |          |
| L0                            | .034879   | .0362581                   | 0.96  | 0.336                | -.0361856            | .1059435 |



|               |           |           |       |         |           |           |
|---------------|-----------|-----------|-------|---------|-----------|-----------|
| L1.           | -.0350361 | .0368079  | -0.95 | 0.341   | -.1071783 | .037106   |
| INFR          |           |           |       |         |           |           |
| L0            | -.0052577 | .0191987  | -0.27 | 0.784   | -.0428865 | .0323711  |
| L1.           | -.0033967 | .0048239  | -0.70 | 0.481   | -.0128514 | .006058   |
| INTR          |           |           |       |         |           |           |
| L0            | .0016375  | .0097789  | 0.17  | 0.867   | -.0175288 | .0208038  |
| L1.           | .0057008  | .0093907  | 0.61  | 0.544   | -.0127046 | .0241061  |
| MS            |           |           |       |         |           |           |
| L0            | .0000757  | .0094969  | 0.01  | 0.994   | -.0185379 | .0186894  |
| L1.           | -.0029486 | .007832   | -0.38 | 0.707   | -.018299  | .0124019  |
| GDP           |           |           |       |         |           |           |
| L0            | -.0018236 | .0032433  | -0.56 | 0.574   | -.0081805 | .0045332  |
| L1.           | 0         | (omitted) |       |         |           |           |
| DIV           |           |           |       |         |           |           |
| L0            | -.0050023 | .008799   | -0.57 | 0.570   | -.0222479 | .0122434  |
| L1.           | .0084343  | .0091075  | 0.93  | 0.354   | -.009416  | .0262846  |
| CEODUAL       |           |           |       |         |           |           |
| L0            | -.0163366 | .0222627  | -0.73 | 0.463   | -.0599707 | .0272975  |
| L1.           | -.001476  | .0231198  | -0.06 | 0.949   | -.04679   | .0438381  |
| INDDIRECTOR   |           |           |       |         |           |           |
| L0            | -.0017245 | .0053427  | -0.32 | 0.747   | -.012196  | .008747   |
| L1.           | .003572   | .0053208  | 0.67  | 0.502   | -.0068565 | .0140005  |
| BCOMP         |           |           |       |         |           |           |
| L0            | .0403828  | .0463167  | 0.87  | 0.383   | -.0503962 | .1311619  |
| L1.           | -.0626934 | .0456479  | -1.37 | 0.170   | -.1521617 | .0267749  |
| BSIZE         |           |           |       |         |           |           |
| L0            | .0026521  | .0023886  | 1.11  | 0.267   | -.0020294 | .0073336  |
| L1.           | -.0012436 | .0023288  | -0.53 | 0.593   | -.0058079 | .0033208  |
| BFREQMEET     |           |           |       |         |           |           |
| L0            | .0027545  | .001441   | 1.91  | 0.056** | -.0000698 | .0055788  |
| L1.           | -.0042808 | .0015864  | -2.70 | 0.007*  | -.0073901 | -.0011715 |
| BSUBCOMTEE    |           |           |       |         |           |           |
| L0            | .0944691  | .032947   | 2.87  | 0.004*  | .0298941  | .1590441  |
| L1.           | -.0785279 | .0309975  | -2.53 | 0.011*  | -.1392818 | -.017774  |
| DIRECTOROWNER |           |           |       |         |           |           |
| L0            | -.0156345 | .0165192  | -0.95 | 0.344   | -.0480114 | .0167425  |
| L1.           | .0208611  | .0174194  | 1.20  | 0.231   | -.0132803 | .0550024  |
| GOVTOWNER     |           |           |       |         |           |           |
| L0            | -.0040454 | .0271303  | -0.15 | 0.881   | -.0572199 | .049129   |
| L1.           | .0036504  | .0269921  | 0.14  | 0.892   | -.0492532 | .056554   |
| INSTIOWNER    |           |           |       |         |           |           |
| L0            | .0549445  | .0479409  | 1.15  | 0.252   | -.039018  | .1489069  |
| L1.           | -.0276132 | .0471452  | -0.59 | 0.558   | -.1200162 | .0647898  |
| BLOCKOWNER    |           |           |       |         |           |           |
| L0            | -.0363581 | .0526495  | -0.69 | 0.490   | -.1395492 | .066833   |
| L1.           | .0137784  | .050283   | 0.27  | 0.784   | -.0847745 | .1123314  |
| AUDITFIRMSIZE |           |           |       |         |           |           |
| L0            | .0129665  | .0202426  | 0.64  | 0.522   | -.0267083 | .0526412  |
| L1.           | -.0043639 | .0202596  | -0.22 | 0.829   | -.044072  | .0353441  |
| AUDITCMTEE    |           |           |       |         |           |           |
| L0            | -.0913768 | .0388501  | -2.35 | 0.019*  | -.1675217 | -.0152319 |
| L1.           | .0994955  | .0376585  | 2.64  | 0.008*  | .0256863  | .1733047  |
| REMUCMTEE     |           |           |       |         |           |           |
| L0            | .024212   | .0218174  | 1.11  | 0.267   | -.0185492 | .0669733  |
| L1.           | -.0283143 | .0216171  | -1.31 | 0.190   | -.0706831 | .0140545  |
| _cons         | .2692472  | .7948137  | 0.34  | 0.735   | -.1288559 | 1.827053  |

Table 4: Random Effects GLS Regression Results on Determinants of Strategic Management Accounting Information Disclosure  
P-values are significant at 1% and 5% levels. \*\*P-Values Significant at the 10% Level