

The Role of Political Connections on the Relationship between Corporate Governance and Management Accounting in Companies Listed on the Iranian Stock Exchange: A Machine Learning and Neural Network Approach

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ABSTRACT

The main objective of this research is to examine the impact of political connections on the relationship between corporate governance and management accounting in companies listed on the Tehran Stock Exchange. The statistical population includes listed companies during the period from 2008 to 2023. This study is descriptive-correlational and utilizes both parametric and non-parametric statistical models. Various machine learning methods, including random forests, decision trees, SVM, and neural networks, were used for data analysis.

Results indicate that variables such as the percentage of institutional shareholders (IO) and the percentage of government ownership (GO), as indicators of political connections and corporate governance, have a significant impact on the application of management accounting. Additionally, the interaction of these two variables (IO*GO) shows high importance in the model, demonstrating the influence of political connections on the relationship between corporate governance and management accounting. Moreover, profitability (PROF) and company size (SIZE) were identified as important factors affecting the implementation of management accounting.

The neural network analysis results show that political connections play a significant role in shaping the relationship between corporate governance and the application of management accounting. The composite variable IO*GO (interaction between institutional shareholders and government ownership) has shown the most significant impact on this relationship. These findings indicate the profound influence of political connections on governance structures and management decisions in Iranian companies. This research emphasizes the complexities arising from the intersection of political and economic interests, suggesting the need for a review of macroeconomic policies and the establishment of more effective regulatory mechanisms. This study can assist policymakers and regulatory bodies in improving transparency, increasing efficiency, and enhancing Iran's position in international business indices. In other words, the present research emphasizes the importance of reforming existing structures and creating effective control mechanisms in the country's macroeconomic policies. It also highlights the necessity of creating a healthy and fair competitive environment in Iran's economy and strengthening anti-monopoly and conflict of interest laws. This study can help policymakers and regulatory bodies improve the business environment, increase transparency, and enhance Iran's position in international indices.

Keywords: Political connections, Corporate governance, Management accounting, Neural network, Machine learning

JEL. C02, C61, C63, G11, G3

INTRODUCTION

In the modern business world, corporate governance and management accounting have become key elements in ensuring transparency, accountability, and effective performance of organizations. These concepts were once only associated with specific economic environments and financial reporting, but now encompass a broader range including corporate strategies, information technology, and corporate social responsibility (Al-Saleem and Amin, 2018). In an era of complex political and economic relationships, the role of political connections in shaping and evolving corporate governance and management accounting has become a significant issue. The influence of political connections on corporate governance has led to a redefinition of structures and supervisory mechanisms within organizations and has affected the performance and quality of management accounting (Ebrahimi et al., 2021). Given that corporate governance and management accounting are recognized as two main pillars in increasing efficiency, transparency, and accountability of companies, examining and understanding the mutual effects between corporate governance, management accounting, and political connections is of particular importance. This is because the complex relationships between corporate governance and management accounting may be influenced by political institutions and dynamics that have not been fully considered so far (Karabulut et al., 2020). Recent financial scandals, such as the Enron disaster, have shown how these relationships can be influenced by external factors and political forces, potentially undermining public trust and destabilizing capital markets (Sajjadi and Bagheri, 2015). On the other hand, political connections can act as an effective factor for access to financial resources, government benefits, and other advantages that in turn affect market conditions and corporate strategies. These interactions require a complex set of unwritten rules and informal agreements that may negatively impact the principles of corporate governance and the creation of a transparent and accountable structure (Salehi Nia and Tameradi, 2019). In this complexity, management accounting plays a vital role in identifying, measuring, and managing political connections and their impacts on companies (Salmanzadeh et al., 2022).

Awareness of corporate ownership structure is one of the most important topics in corporate governance. The ownership structure of companies refers to the composition of shares and shareholders. Different types of shareholders (institutional and individual shareholders) can create different ownership structures, each of which may have different impacts on management accounting policies (Dichev et al., 2015). The composition of companies' ownership structure and how ownership is divided between minor and major shareholders, or between different groups of individual and institutional owners such as banks, government, financial institutions, credit institutions, investment companies, and other companies, will have different supervisory and control effects on the company's strategic performance. Part of company ownership is held by individual shareholders, who mainly rely on publicly available information such as published financial statements to monitor managers' performance. Another part of ownership is held by major professional shareholders or institutional shareholders who, unlike the first group, have access to valuable internal information about the company's future prospects and business, financial, and investment strategies through direct communication with managers (Noravesh and Ebrahimi Kordlar, 2005).

The impact of political connections on management accounting is another important corporate policy. Bromwich, in 1988, 1990, and 1992, demonstrated various aspects of management accounting. Today, the literature on management accounting has grown significantly, but there is still limited agreement and consensus about the exact meaning of management accounting. Thus, most articles are conceptual and few of them have precisely addressed the topic of managerial accounting in a research and experimental manner. For instance, Zandi and Shum (1999); Golding et al. (2000) and Kroner and Golding (2007) in their research used approximately 22 strategic management accounting techniques in Latin American countries. Golding et al. (2001) identified and tested 12 managerial accounting techniques in their research, Crowns and Golding (2001) added three techniques to the 12 techniques of Golding et al. (2000) and tested them again. Additionally, Khazar and Golding (2007), among the techniques used, classified and tested 16 managerial accounting techniques (Salehinia and Tameradi, 2019). Thus, the studies have shown that political connections can significantly affect corporate governance frameworks and managerial accounting. This phenomenon, defined as relationship-based economics, operates in such a way that companies use their political connections to access financial resources and attain significant advantages, which can affect their accounting decisions and financial reporting (Najaf and Najaf, 2021). Therefore, there is concern that companies benefiting from political connections may have lower

quality in financial reporting because they have easier access to financing and feel less need to seek credibility from capital markets (Preiuse and Koenigsegruber, 2020). Moreover, attention to the increasing role of accounting in strengthening corporate governance both from an internal perspective and from the standpoint of external supervisors and regulators worldwide has increased, particularly following major financial scandals such as Enron, challenging existing beliefs about auditor independence and trust in the efficiency of capital markets (Von Drill, 2019). In this context, institutional theories have been proposed as a platform for better understanding the role of managerial accounting and corporate governance. These theories rely on institutional characteristics and highlight the importance of cognitive institutional approaches in formulating managerial accounting strategies and enhancing corporate governance (Seal, 2006). On the other hand, empirical accounting studies have shown that economic, social, and political structures such as legal, judicial, commercial, and tax systems, the nature and type of defined relationships in the economy, customs, culture, and political system along with capital market pressures influence the behavior of managers, auditors, investors, lawmakers, and other market participants towards financial reporting (Bushman and Piotroski, 2006). Hence, considering the existing materials, it can be stated that some managers aim to create connections with the government to remove financial constraints at minimum cost (Boubaker et al., 2001). As a result, companies with political connections share the gained benefits with politicians, a type of economic fabric in society that is called relationship-based political economics (Chen et al., 2012). In these conditions, the term political connections is used to describe close relations between the government and business units (Rezaei and Afrozi, 2015), where companies benefiting from political connections can achieve benefits such as favorable debt conditions, reduced financial costs, improved growth opportunities, and lower bankruptcy risk (Houston et al., 2014; Faccio et al., 2016). On the other hand, creditors are primarily considered as one of the sources of financing in a company. They review the financial information of companies requesting loans to lower the risk of lending losses. Therefore, they need reliable information to determine the amount of the loan and the cost of debt by reviewing financial accounts. In relationship-based economic systems, political connections are an important source of value for politically connected companies. These companies more easily access capital resources and other benefits through their connections, making them less reliant on high-quality financial reporting. Therefore, access to capital resources in politically connected companies does not heavily depend on reported profits, as political connections lead to easier access to credit and capital resources from state-owned banks (Boubaker et al., 2012; Ding, 2005). Due to these factors, in recent years, there has been a renewed focus on corporate governance, primarily due to several failures of large companies where the main cause of most of these failures was weak governance structure or lack of a corporate governance structure. Therefore, in today's global society, the view is that better corporate governance helps prevent unacceptable behavior and increase company transparency. The informational environment of a company, including various investment decisions, voluntary information disclosure, media coverage, and individual investor activities to obtain private information, can change depending on the company's strategies, thereby affecting how earnings announcements influence investor awareness and belief changes (Guy, 2016). Therefore, when a company announces its earnings, these announcements can affect investor trust and decision-making. Considering that companies have easier access to financial resources after establishing political connections, it can be stated that political connections in companies have the potential to influence the structure of corporate governance, including ownership and the board of directors. Hence, the main objective of the present research is to examine the impact of political connections on the relationship between corporate governance and managerial accounting in companies listed on the Tehran Stock Exchange.

The organization of the present article is as follows: first, the literature on corporate governance, audit quality, and public sector accounting is discussed and related empirical background reviewed. Following that, the research methodology is explained, the statistical population is introduced, and the data are analyzed. Finally, the research findings are presented and discussed, and several practical recommendations are proposed based on the conclusions drawn.

Literature Review

Upon reviewing the conducted research, it is observed that there are various definitions of corporate governance from a general perspective; however, there is no comprehensive and universal definition accepted as a reference. Generally, corporate governance can be defined as an organizational system used with the aim of directing, supervising, and controlling the activities and structure of a company (Melikian and Daryaei, 2011).

In other words, corporate governance is a set of principles, policies, and procedures implemented to ensure efficiency, transparency, and fairness in managing company affairs (Aghakhani, 2014). The main goal of corporate governance is to enhance company efficiency, optimally use resources, and secure the interests of all stakeholders, including major and minor shareholders, employees, customers, and the community (Paul and Mustafa, 2023). Therefore, it can be said that corporate governance promotes transparency, accountability, economic efficiency, shareholder rights, and corporate social responsibility in a way that, in companies where corporate governance is well implemented, audits are conducted under strict supervision, keeping shareholders informed about important decisions (Aghakhani, 2014).

Managerial accounting is the process of identifying, measuring, collecting, analyzing, organizing, describing, and communicating information (both financial and operational) that aids in planning, checking, and controlling an organization and ensures the optimal use of resources related to managerial activities (Fangjuan Qiu et al., 2022). In other words, managerial accounting is a strategic planning process for gathering, processing, and reporting financial and managerial information that facilitates decision-making and management in organizations (Almassan and Corina, 2009). The main objective of managerial accounting is to provide precise and practical financial and managerial information to managers to strengthen the decision-making process (Salman Zadeh et al., 2022). Managerial accounting gathers information from all units and levels within an organization and presents reports based on the organization's objectives. These reports include information such as revenues, expenses, assets, liabilities, employee performance, product quality, and other data related to the organization's performance (Basim Aljibhan, 2023). Thus, managerial accounting goes beyond standard financial reporting based on international accounting laws, encompassing tools and techniques that allow managers continuous access to up-to-date and practical information for strategic and operational decision-making (Shojaei et al., 2016). This approach helps managers evaluate the overall performance of the company, compare the performance of units and projects, and plan budgets and resources more effectively, ultimately leading to optimal managerial decision-making in various business conditions (Hosseini and Dizgah, 2015). In summary, managerial accounting is a collection of tools and techniques used to gather, analyze, and report data to assist management in the decision-making process. This type of accounting is developed to provide accurate and timely information to support more efficient decision-making (Chang et al., 2023). Political connections refer to a set of activities and relationships that an organization establishes with political and governmental individuals and groups to succeed in the business arena and create effective political relationships with statesmen, legal representatives, and lobby groups. These political connections include direct interactions with these individuals and groups, developing ongoing and effective communications with them, securing resources and facilities through political connections, and participating in political scenes (Megan Good and Shupeker, 2022). Generally, political connections are a set of activities and relationships an organization establishes with political and governmental individuals and groups, including direct interactions, developing ongoing and effective communications, securing resources and facilities through political connections, and participating in political scenes (Mitchell and Paul Allen, 2023).

Therefore, from an accounting perspective, political connections can have a direct impact on the financial activities of a company. These connections help the company improve decisions such as planning and securing financial resources, obtaining facilities, determining optimal financial and tax policies, etc., based on political influences (Mahmoud Ezzamel et al., 2004). Thus, the importance of appropriately managing political connections in securing benefits, credibility, and improving the financial performance of a company is clearly significant. Consequently, to control and manage these connections, companies can focus on managing relationships with political officials, participating in lobbying activities, joining industrial and social associations and groups, utilizing social media, and public relations, as well as adhering to relevant laws and regulations.

Experiential studies regarding the relationship between corporate political connections and company performance in emerging markets are limited. Moreover, most existing literature on the relationship between corporate political connections and company performance in emerging markets focuses on examining the relationship between two variables (e.g., positive, negative, or neutral) within a specific political-economic environment. Meanwhile, corporate political connections have numerous impacts on corporate governance or managerial accounting. Hyuk-Kim (2022) examined corporate political connections as a non-market strategy for companies and their impact on company performance in emerging markets, focusing on South Korea. Kim's objective was to provide a conceptual framework for the potential use of research in global markets with diverse

political, legal, and regulatory contexts (Askari et al., 2020).

Therefore, existing literature indicates that developing and maintaining connections with political institutions is a fundamental activity of non-market strategies for multinational companies. The concept of corporate political connections has been defined in various ways. According to a definition by Sun et al. in 2012, corporate political connections are "personal and institutional links between companies and governmental sectors." Faccio in 2006 defined political connections as instances when key individuals, such as the CEO or board members, are from governmental sectors. Haomen et al. in 2013 assigned these connections to upper roles in the government or higher organizations (Chui et al., 2020).

Therefore, it is clear that corporate political connections have various impacts on corporate governance and managerial accounting. These impacts can be both positive and negative, depending on how these connections are managed and utilized. In research by Salehi Nia and Tamerad (2019), it is suggested that positive political connections can allow companies to leverage government resources and privileges to their advantage, while negative political connections can contribute to corruption and abuse of power. Effective communications with governmental institutions can assist companies in obtaining financial facilities, licenses, and special resources, ultimately improving corporate governance. Mahmoud Ezzamel et al. (2004) emphasized the importance of this matter and demonstrated how corporate governance can be improved through strategic decision-making and financial resource management. On the other hand, negative political connections can lead to the destruction of trust and an increase in corruption, which consequently harms corporate governance. Heidari et al. (2015) highlighted how negative political connections can cause weaknesses in corporate governance. Overall, effective interaction with governmental and political institutions can play a significant role in facilitating access to necessary facilities, promoting company strategies, maintaining compliance with laws and regulations, and reducing corruption. This helps in strengthening corporate governance and improving managerial accounting.

However, improper and unfair use of political connections can have negative consequences and harm corporate governance, as examined in the research by Roudpoushti and Bayat (2012). Ultimately, considering the theoretical foundations, it is observed that political connections in companies act as a bridge between corporate governance and managerial accounting, as they can have significant impacts on the company's decisions and strategies. Positive relationships with political and governmental institutions can create opportunities for companies, making access to resources, financial facilities, and necessary licenses easier, all of which directly impact corporate governance and managerial accounting. Implementing strategies based on these connections can lead to improved transparency, economic efficiency, and fairness in company administration, thereby benefiting all stakeholders, from shareholders to the community at large.

On the other hand, negative political connections or those established based on personal interests can lead to increased corruption, reduced transparency, and weakened corporate governance principles. In such conditions, managerial accounting may be affected and unable to provide accurate and useful information for decision-making, ultimately harming all stakeholders and the economic efficiency of the company. Therefore, proper management of political connections to enhance corporate governance and managerial accounting requirements is crucial.

There have been a few quantitative studies on the impact of political connections on the relationship between corporate governance and managerial accounting. In this section, some of the most important studies have been discussed as the empirical literature of the research.

Mousavi Shiri and Shakeri (2014) examined the effectiveness of using investigative strategies and cost management techniques in strategic management on the overall performance of companies listed on the Tehran Stock Exchange. The research results showed that precisely tuned strategies, consistent with the principles of strategic management accounting, lead to improved company performance. These findings have important implications for managers, encouraging them to focus more on the strategic alignment between management accounting and corporate goals.

Giorgita et al. (2014) examined the quality of accounting items and the impact of state ownership in 12,261 companies (1978-2003). Lower quality of accruals and a higher likelihood of earnings management were observed in state-owned companies.

Rashidian et al. (2014) analyzed the relationship between state ownership and conditional conservatism in accounting in 83 companies (2006-2011). The results indicated a positive impact of state ownership on conditional conservatism.

Rezazadeh and Khani Langi (2015) investigated the impact of ownership concentration and state ownership on accounting conservatism. The statistical population of their research included companies listed on the Tehran Stock Exchange from 2002 to 2012. Their research examined the relationship between ownership structure and accounting conservatism. The results showed that the conservatism of companies with the largest state shareholder was lower than that of other companies.

Andrews (2017), in a study titled "The Impact of Corporate Governance Characteristics on Strategic Management Accounting in Thailand," showed that corporate governance characteristics significantly affect strategic management accounting from two aspects - participation and utilization. The results also indicated that the separation of CEO and chairman roles, the size of the independent board of directors, and the frequency of audit committee meetings have positive impacts on their participation and application, while centralized chairmanship and the dimensions of the board of directors have negative effects on both participation and utilization.

Ding et al. (2018), in a study on private companies in China, presented an emerging case study of pervasive real earnings management activities among state-owned companies. Analyses indicated a significant relationship between state ownership and companies' deliberate approaches to adjust financial reports to support external political and economic goals. This was especially prevalent in regions with higher levels of economic development, where the pressure on state-owned companies to demonstrate stronger performance was considerable. The results also showed that these approaches improve company performance by presenting a more positive image to shareholders and other stakeholders. Ebrahimi and Bokhori-Nasab (2019) emphasized in their research that with significant changes and transformations in the business environment, the role of strategic management accounting and its increasing importance have become more evident. They believe that utilizing these methods can aid financial managers in making more effective decisions throughout the value chain. Their research showed that companies adopting strategic management accounting and utilizing its techniques performed better. This was particularly true for companies with active institutional ownership and highly independent audit committees. These findings stress the importance of moving towards advanced approaches in management accounting and the necessity of reviewing managerial and accounting structures within companies.

Mohammadi Khaneqah et al. (2021) studied real earnings management, the quality of corporate governance, and credit ratings. The study aimed to examine the mediating effect of earnings management on the relationship between corporate governance quality and credit ratings. To execute this research, 144 companies listed on the Tehran Stock Exchange during the period from 2009 to 2017 were selected. The results indicate that the quality of corporate governance indirectly impacts the credit rating through real earnings management.

Amiri et al. (2022) investigated the influence of corporate governance on managerial optimism and the comparability of financial statements. This study aimed to examine the impact of corporate governance on the relationship between managerial optimism and the comparability of financial statements in companies listed on the Tehran Stock Exchange. Data were collected from 79 companies listed on the Tehran Stock Exchange over the period from 2014 to 2018. The research findings indicate that among the chosen corporate governance mechanisms, board independence, dual roles of the CEO, ownership concentration, and institutional ownership affect the relationship between managerial optimism and the comparability of financial statements. However, market competition does not impact this relationship.

Sahari and Pourzamani (2023) in their study titled "Explaining the Model of Corporate Governance Characteristics with a Focus on Strategic Management Accounting and Management Accounting," also examined corporate governance and managerial auditing. The objective of this research is to "explain the model of corporate governance characteristics with a focus on strategic management accounting and management accounting." Using confirmatory factor analysis and structural equation modeling, they designed a model of corporate governance characteristics with an interactive approach to strategic management accounting and management accounting. The study population in the qualitative section includes managers, heads, and academic experts in management accounting focused on corporate governance in the year 2019, and in the quantitative section, all companies listed on the Tehran Stock Exchange from 2011 to 2018. The sample size in the qualitative section consisted of 24 experts in management accounting focused on corporate governance selected through snowball sampling and theoretical saturation. In the quantitative section, 150 companies were systematically eliminated to determine an appropriate sample size. The results showed that management accounting components significantly impact the components of strategic management accounting and corporate governance

characteristics. The results also demonstrated that strategic management accounting components significantly affect corporate governance characteristics.

In conclusion, a review of previous studies indicates that most studies have examined the impact of strategic management accounting methods, ownership concentration, corporate governance structure, and state ownership on performance, financial transparency, and managerial optimism in various companies. These studies show that adopting precise strategies consistent with strategic management accounting principles leads to improved company performance, and the quality of corporate governance and board independence positively impact credit ratings and the comparability of financial statements. Additionally, it was observed that state ownership can negatively affect the quality of accruals and positively influence conditional conservatism in accounting. Therefore, most of these studies emphasize the importance of focusing on corporate governance structure and employing strategic management accounting approaches to enhance financial efficiency and transparency in companies. The present study aims to examine the relationship between corporate governance and management accounting considering the impacts of political connections, which is a significant difference from previous studies. Additionally, this study will use both parametric statistical methods and approaches such as neural networks and machine learning, which have not been utilized in previous research in this field. Therefore, the results of this study are expected to contribute to the expansion of theoretical and empirical literature in this domain.

Research Methodology

The type of study in this research is descriptive and correlational. Both parametric and non-parametric statistical models are utilized in this research. Monthly data from the period 2008 to 2023 (1387 to 1402 in the Iranian calendar) is used, sourced from published statistics from the Iranian stock databases. The websites for data collection are as follows:

- <https://www.tsetmc.com/>
- <https://codal.ir/>
- <https://www.fipiran.com/DataService/IndexIndex>

To collect financial data of companies, information from the Research, Development, and Islamic Studies Management Index and the Financial Data Processing Center of Iran were reviewed. The balance sheet financial statements and income statements of companies for the periods 2008 to 2023 (1387 to 1402) are examined. It is noteworthy that the target population of the present study includes all industries listed on the Tehran Stock Exchange with the following criteria:

1. To select a homogeneous sample, companies must have been listed on the Tehran Stock Exchange before 2008 (1387) and remain active until the end of 2023 (1402).
2. To increase comparability, companies should not have changed their fiscal year or type of activity during the period from 2008 to 2023 (1387 to 1402).
3. Companies with separate reporting structures, such as investment and financial intermediary companies (leasing companies, insurance companies, holdings, and banks), are excluded from the sample.
4. Their financial data must be available for the period from 2008 to 2023 (1387 to 1402).

Considering all the above criteria, 140 companies remain as the screened population, all of which are selected as the sample.

Model Specification of the Research

$$SMA_{it} = F (IO_{it} + MB_{it} + TANG_{it} + PROF_{it} + Size_{it} + INFL_{it}) \quad (1)$$

where in:

SMA: It is a management accounting application variable based on the method of measurement according to the study (Tu Hin Nguyen et al., 2023). It is also as follows:

$$\text{Capital efficiency} = ROA \left(\frac{\text{Netprofit}}{\text{assets}} \right)$$

where in:

ROA is the return on assets, Netprofit represents net profit and assets represent the company's assets. Therefore, in this part, net profit is the amount of profit produced by the organization and assets, the sum of the resources used to produce that profit. This measure shows how much capital is used by the organization to generate profit.

$$\text{Return on investment} = \text{ROI} \left(\frac{\text{Netprofit}}{\text{investment}} \right) * 100$$

where in:

ROI: return on investment, Investment: represents investment. Therefore, here, investment is the sum of funds used to generate profit and added value. This measure shows how much return on investment the organization gets.

$$\text{shareholder returns} = \text{ROE} \left(\frac{\text{Netprofit}}{\text{Capital of legal owners}} \right) * 100$$

where in:

ROE: return on equity and Capital of legal owners also represents the capital of legal owners.

Therefore, in this part, the capital of legal owners represents the capital and shares of the organization. This measure shows how efficient the organization is in generating profits for legal owners. Finally, SMA, which represents management accounting and our dependent variable, will be as follows:

$$\text{SMA} = \text{Capital efficiency} + \text{Return on investment} + \text{shareholder returns}$$

Therefore, after the measurement criterion of our dependent variable is determined, we will examine and specify other models as well, which is as follows:

$$\text{SMA}_{it} = f(\text{IO}_{it} + \text{GO}_{it} + \text{IO} * \text{GO}_{it} + \text{MB}_{it} + \text{TANG}_{it} + \text{PROF}_{it} + \text{Size}_{it}) \quad (2)$$

where in:

IO*GO: represents the combination of two interactive variables of institutional shareholders and government ownership percentage. Therefore, this variable also shows the influence of political and government relations (corporate governance);

IO: percentage of institutional shareholders: including shareholders such as banks, insurance and institutions of the Islamic Revolution;

GO: percentage of government ownership as a proxy for political relations;

MB: ratio of market value to book value of shares (Harris and Roark, 2019);

TANG: It is equal to the ratio of net property, machinery and equipment to the book value of total assets. (Harris and Roark, 2019);

PROF: Corporate Profitability - Distribution of profit after tax on total assets. (Mehrani et al., 2014);

SIZE: The size of the company is equal to the logarithm of the total assets of the company. (Asadi, 2014).

Data and information analysis

First, using descriptive statistics, the status of the data has been discussed with the central indicators. Table 1. It shows the status of research variables in terms of descriptive statistics indicators.

Table 1). Descriptive statistics of research variables

ROW	variables	1st Qu	3rd Qu	Jarek-Bra test	
				X-squared	p-value
1	SMA	371239	371239	23615352	0.0000
2	Io	22.00	85.81	237.86	0.0000
3	Go	38.27	58.35	11.992	0.0024
4	Io*go	286.9	3729.2	223.72	0.0000
5	Mb	19.76	186.75	2909585	0.0000
6	Tang	0.20917	0.27311	1873.7	0.0000
7	PROF	12356	152724	35281383	0.0000
8	Size	13.09	13.78	3988.6	0.0000

Source: Research calculations

Based on the results listed in Table 1, it can be seen that all the research variables do not have a normal distribution, because the Jarek-Bora probability for the research variables is higher than 0.05. Therefore, one of the main conditions of machine learning and neural networks is the non-normal distribution of research data. that the necessary condition has been provided, and in the following, neural networks and machine learning can be used to analyze data and research information in order to examine the role of political relations on the relationship between corporate governance and management accounting. After examining the results of descriptive statistics,

Levin, Lin and Chou, Hashem-Posran, Dickey-Fuller generalized tests and Fisher's unit root test were used to check the stationarity of the research data, and then Kao test was used to check the unit root test. has been used and its results are as described in Table 2.

Table (2). unit root test

PP		ADF		Im, Pesaran		Levin, Lin & Chu t		variable
Prob	Statistic	Prob	Statistic	Prob	Statistic	Prob	Statistic	
0.0000	195.82	0.0000	135.07	0.0000	-7.283	0.0000	-14.89	SMA
0.0000	209.74	0.0057	192.856	0.0000	-3.688	0.0000	-10.250	GO
0.0004	355.58	0.9527	234.24	0.9994	3.250	0.000	0.6316	IO
0.0000	259.45	0.0005	208.89	0.0065	-2.4825	0.0013	-3.0057	MB
0.0000	2083.53	0.0000	973.83	0.0000	-20.297	0.0000	-7.7536	PROF
0.0000	798.756	0.0000	387.655	0.0000	-9.6952	0.0000	-10.559	SIZE
0.0000	1857.97	0.0000	814.201	0.0000	-17.097	0.0000	-19.884	TANG
Kao Residual Cointegration Test								
t-Statistic= 4.911079				Prob= 0.0000				

Source: Research Calculations

The results of the stationarity tests for the research variables indicate that many variables are rejected at a very small significance level. For instance, the results of the Levin, Lin & Chu t-test and the Im, Pesaran test show that the variables SMA, GO, MB, PROF, SIZE, and TANG are all significant at a 0.000 significance level, indicating that these variables are stationary. Additionally, the results of the ADF and PP tests confirm this stationarity. Specifically, the variables PROF, SIZE, and TANG have large and significant statistics across all four tests. On the other hand, the variable IO shows completely different results. It is shown to be stationary in the Levin, Lin & Chu t-test but non-stationary in the Im, Pesaran test, and it also has different results in the ADF and PP tests. This may indicate unusual fluctuations or high dependency of this variable on other variables. Finally, the cointegration test using the Kao Residual Cointegration Test also indicates that the variables are cointegrated, meaning that there is a significant long-term relationship between the variables at a 0.000 significance level and a t-statistic of -4.911. These results highlight the importance of a more detailed examination of the data structure and further analysis of the long-term and short-term relationships between the variables.

After determining the stationarity of the research data, the correlation between the research variables and the dependent variable was examined, revealing the correlation values and the probabilities related to the relationship between the variables under study. The correlation between research variables indicates how two variables are related to each other. If the correlation value is close to 1 or -1, it indicates a strong relationship, and if it is close to 0, it indicates no or a weak relationship. The probability related to the hypothesis test indicates whether the relationship is statistically significant. Usually, if this value is less than 0.05, the relationship can be considered statistically significant. The results related to the correlation between the research variables are shown in Table (3).

Table (3). Correlation of research variables

(correlation_matrix)		
P-Value	SMA	Variable
0.0000	0.67233948	IO
0.0021	0.67557870	GO
0.0000	0.67557870	IO*GO
0.0001	0.54644590	SIZE
0.0005	0.54644590	MB
0.0000	0.4874067	TANG
0.0000	0.5874067	PROF

Source: Research Calculations

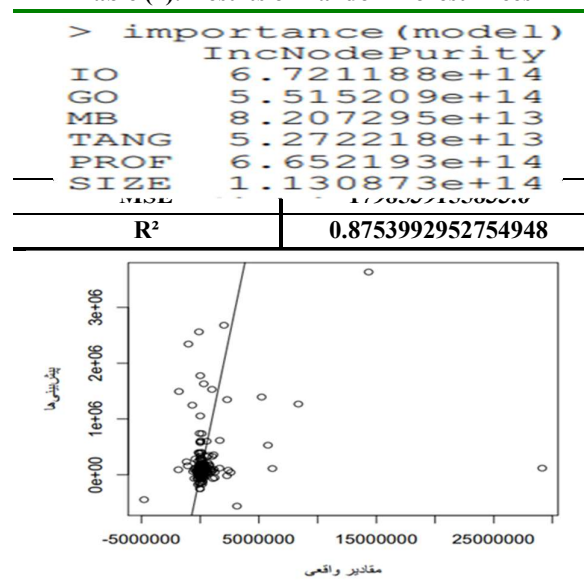
Based on the presented tables, the relationship between various variables and the SMA index can be thoroughly analyzed. The SMA index has significant positive correlation coefficients with all variables. The highest correlation pertains to the variables IO and IO*GO, with correlation coefficients of 0.67557870 and significance levels of 0.0000 and 0.0021, respectively. This indicates that the combination of internal interactions (IO) and external interactions (GO) has a substantial impact on SMA, likely playing an important role in the relationship between corporate governance and management accounting.

Additionally, the variables SIZE and MB also have significant correlations with SMA, with correlation coefficients of 0.54644590 and significance levels of 0.0001 and 0.0005, respectively. This kind of relationship shows that company size and the improvement of the capital market (MB) are also significantly related to the improvement of governance indices and management accounting performance. In other words, larger companies with improved market conditions are more likely to see improvements in SMA indices, which could result from the impacts of policies and managerial decision-making.

On the other hand, the variables TANG and PROF with correlation coefficients of 0.4874067 and 0.5874067 and significance levels of 0.0000 indicate that focusing on assets and company profitability also has a positive impact on SMA. This suggests that by improving the asset structure and increasing profitability, managerial policies and management accounting processes also improve.

Overall, the results of this analysis show that political relationships have a significant impact on the relationship between corporate governance and management accounting, and variables related to internal and external relations, company size, capital market, asset concentration, and profitability are all significantly interrelated and contribute to the improvement of management accounting indices. After determining the relationship between research variables, the role of political relationships on the relationship between corporate governance and management accounting using machine learning and neural networks is examined, with results presented in Tables 4 to 7.

Table (4): Results of Random Forest Trees



Source: Research Calculations

The analysis of the importance of variables in the Random Forest model emphasizes the significant role of managerial accounting variables, corporate governance, the role of political relationships, and capital markets. Variables such as the percentage of institutional shareholders (IO) and the percentage of state ownership (GO) have high values, highlighting their prominent role in strategies. This underscores the undeniable impact of governmental and institutional relationships on the success of companies. Profitability (PROF) and company size (SIZE) also exhibit high values, indicating the companies' capability to enhance and implement processes.

These factors enable companies to leverage resources and better align with existing policies to improve their financial and managerial performance.

Conversely, the focus on assets (TANG) and the capital market (MB) also retains its own importance, although their impact is somewhat less significant compared to other variables. The enhancement of the capital market helps companies secure the necessary financial resources to bolster their management and governance programs. The model's high accuracy and minimal errors indicate the validity of the results and emphasize that factors such as profitability, company size, internal and external relations, and capital market conditions significantly influence management and governance indices. These insights provide companies with critical opportunities to make more effective strategic decisions.

Following the results of the Random Forest Trees, the same model was analyzed using the Light Decision Tree, with the results presented in Table 5.

Table (5): Results of Light Decision Tree

head(results_df)				
Actual	Prediction	Absolute_Error	Squared_Error	
110631.0	4660.278	105970.72	11229793908	
868707.2	-32124.154	900831.39	811497188021	
187869.0	395420.414	207551.41	43077589379	
-418288.0	-264013.770	154274.23	23800537900	
-9861.0	13765.883	23626.88	558229599	
61725.0	-6349.844	68074.84	4634184346	
head(test_data[, .(SMA, Prediction, Absolute_Error, Squared_Error)])				
SMA	Prediction	Absolute_Error	Squared_Error	
<num>	<num>	<num>	<num>	
110631.0	4660.278	105970.72	11229793908	
868707.2	-32124.154	900831.39	811497188021	
187869.0	395420.414	207551.41	43077589379	
-418288.0	-264013.770	154274.23	23800537900	
-9861.0	13765.883	23626.88	558229599	
61725.0	-6349.844	68074.84	4634184346	
importance_matrix <- importance_matrix[order(-importance_matrix\$Gain), print(importance_matrix)]				
Feature	Gain	Cover	Frequency	
<char>	<num>	<num>	<num>	
IO*GO	0.42801091	0.15883830	0.1426667	
IO	0.33356342	0.33806460	0.2783333	
SIZE	0.12120016	0.26428757	0.2620000	
MB	0.09017377	0.19259970	0.2146667	
time	0.02705174	0.04620982	0.1023333	

Source: Research Calculations

The analysis of the Decision Tree results shows that the combination of internal and external relationships (IO*GO) with a gain coefficient of 0.42801091 has the most importance in the management accounting model (SMA). This combination represents the interaction between institutional shareholders and state ownership, indicating the impact of political and governmental relationships on managerial and accounting indices. The results emphasize that the interaction between internal and external relationships can lead to improved efficiency and effectiveness in managerial and accounting policies and plays a central role in explaining the relevant indices.

Internal relationships (IO), with a gain coefficient of 0.33356423, also constitute one of the most important variables in improving accounting and managerial processes. Institutional shareholders, such as banks and insurance companies, through the exchange of knowledge and internal resources, have a significant impact on the company's performance. The importance of this variable indicates the need to strengthen internal relationships to improve the overall performance of companies and emphasizes that enhancing policies in this area can lead to significant improvements in management accounting results (SMA).

Company size (SIZE), with a gain coefficient of 0.12120016, also plays a significant role in the model. Larger companies with better access to resources can implement more efficient accounting and managerial policies. Additionally, the capital market variable (MB), with a gain coefficient of 0.09013737, underscores the importance of capital market conditions in improving accounting and managerial performance. Finally, time (time), with a gain coefficient of 0.027051, indicates that the time-consuming nature of processes is also of lesser importance, highlighting that the combination of the above variables should be considered in the decision-making and policy-making of companies.

The analysis of regression and decision tree models indicates that political relationships, particularly internal (IO) and external (GO) relationships, play a very important role in improving governance and management accounting indices. This importance is confirmed by gain coefficients of 0.34724 for external relationships and 0.29671 for internal relationships. Additionally, the interaction and synergy between internal and external relationships (GO*IO) with a gain coefficient of 0.078082 indicate the significant impact of these interactions on improving the performance of companies. These findings emphasize that managerial policies and decision-making based on these political relationships can bring significant improvements in managerial and governance indices.

Besides political relationships, other variables such as profitability (PROF) with a gain coefficient of 0.10194, company size (SIZE) with a gain coefficient of 0.13245, and the capital market (MB) with a gain coefficient of 0.04357 also have high importance in the model. Larger and more profitable companies, due to greater access to financial resources and the ability to improve processes, can enjoy more advantages for enhancing management accounting and corporate governance. Furthermore, the improvement of capital market conditions can positively impact managerial indices. Overall, the model's low error values (MSE: 0.18152) indicate that the results are valid and interpretable and emphasize that strengthening and expanding political relationships and effectively leveraging these relationships should be considered in company policies to achieve greater success and stability.

After determining the results of the Random Forest and Light Decision Tree models, the research models were examined using the SVM learning algorithm and also ANNs neural networks to investigate the hypotheses: "There is a significant relationship between institutional shareholders and the adoption of management accounting.", "The percentage of state ownership affects the relationship between institutional shareholders and the adoption of management accounting.", "There is a significant relationship between the percentage of non-executive directors and the adoption of management accounting.", "The percentage of state ownership affects the relationship between non-executive directors and the adoption of management accounting.". The results related to these examinations using the SVM learning algorithm are presented in Table 6.

Table 6. Review of research models based on SVM learning algorithm

Overall statistics		Statistics by Class	Class1	Class2	Class3
95% CI	0.8616) (0.4313)	Sensitivity	0.897	0.938	1.0000
No Information Rate	0.0016	Specificity	1.0000	1.0000	1.0000
P-value [Acc>NIR]	< 2.2e-16	Pos Pred Value	1.0000	1.0000	1.0000
Kappa	0.9039	Neg Pred Value	0.6221	0.7241	0.8471

Mcnemar's Test P-Value	0.0000	Prevalence	1.0000	1.0000	1.0000
		Detection Rate	1.0000	1.0000	1.0000

Source: Research Findings

Based on Table 6, the study demonstrates through sensitivity, specificity, positive and negative prediction rates, kappa statistic, and detection rates that our model has successfully identified the majority of positive cases related to the adoption of management accounting (SMA). The model's features, particularly in identifying negative cases and accurate positive predictions, show high accuracy, which can correctly reflect economic and managerial impacts.

The results show that the model effectively identifies the significant role of political and governmental relationships in management accounting and corporate governance. The IO*GO variable, which represents the combination of institutional shareholders (IO) and the percentage of state ownership (GO), indicates the impact of political and governmental relationships on the adoption of management accounting (SMA). The model has accurately demonstrated the role of this variable in increasing or decreasing the accuracy of management accounting, which can be used to better understand the impacts of governmental policies on management accounting.

The percentage of institutional shareholders (IO) is identified as one of the important variables in the model that can have a significant relationship with the adoption of management accounting. The results from the model indicate that institutional shareholders, such as banks and insurance companies, have a considerable impact on the adoption of management accounting, and their financial and managerial behaviors are of great importance. The model has accurately predicted the impact of the percentage of state ownership (GO). This variable, representing political relationships, has a significant impact on managerial accounting indices, and the model has shown that the influence of state ownership can create significant differences in the adoption of management accounting. Other effective variables, such as the market-to-book ratio (MB), the ratio of net property, plant, and equipment to total assets (TANG), company profitability (PROF), and company size (SIZE), have also been accurately predicted by the model regarding their impact on the adoption of management accounting.

The model's results indicate that these variables also play significant roles in the precise analysis of management accounting and in determining the impact of managerial and economic policies. Overall, the study demonstrates that the model, with high accuracy, has the ability to analyze and predict the relationship between important variables and management accounting, and can accurately discern the effects of political and managerial relationships.

Given the model's high accuracy and reliability in the conducted analyses, the results indicate that the variable of management accounting adoption (SMA) is directly influenced by the combination of the two interactive variables, institutional shareholders, and state ownership percentage (IO*GO). These results indicate the impact of political and governmental relationships (corporate governance) on the adoption of management accounting. The model, with high sensitivity, specificity, and a positive prediction rate (1.0000), has shown that it can accurately predict the role of institutional shareholders (IO) and the effects of state ownership percentage (GO) in the adoption of management accounting. Additionally, the results suggest that the market-to-book ratio (MB), the ratio of net property, plant, and equipment to total assets (TANG), company profitability (PROF), and company size (SIZE) have been considered as control variables in the analyses, and the model has correctly identified their impact as well.

The final conclusion is that all research hypotheses are confirmed: "There is a significant relationship between institutional shareholders and the adoption of management accounting.", "The percentage of state ownership affects the relationship between institutional shareholders and the adoption of management accounting.", "There is a significant relationship between the percentage of non-executive directors and the adoption of management accounting.", "The percentage of state ownership affects the relationship between non-executive directors and the adoption of management accounting.". Significant relationships exist between the

study's variables. Ultimately, after determining the results related to the SVM algorithm, the model was finally reviewed using ANNs artificial intelligence, with the results presented in Table 7.

Table (7). ANNS neural network

<pre>> print(vi_sma)</pre>			
	variable	mean_dropout_loss	label
1	_full_model_	0.7171607	nnet
2	SMA	0.7171607	nnet
3	TANG	0.7230367	nnet
4	PROF	0.7296079	nnet
5	SIZE	0.7421561	nnet
6	IO	0.9194549	nnet
7	GO	0.9251656	nnet
8	MB	1.0659463	nnet
9	IO*GO	1.3464801	nnet
10	_baseline_	1.1572497	nnet
RMSE for ROE Model		0.8486201	
predicted values	Min	0.3138859	
	Max	0.9999298	
residuals	-3.504952	1.440742	

Source: Research Calculations

The results of the Artificial Neural Network (ANNs) analysis indicate that the variables SMA, TANG, PROF, and SIZE have the greatest impact in reducing model errors and improving its predictions. SMA, which indicates the adoption of management accounting, has an average decrease of 0.7171607, which is approximately equal to the complete model. TANG (the ratio of net property, plant, and equipment to the book value of total assets) with an average decrease of 0.7230367, PROF (company profitability) with an average decrease of 0.7296079, and SIZE (company size) with an average decrease of 0.7421561 also play significant roles in improving the model's performance.

On the other hand, the variables IOGO, IO, GO, and MB have a greater impact compared to others, holding high importance. The combined variable IOGO, indicating the impact of political and governmental relationships (corporate governance), has an average decrease of 1.3464801. IO (percentage of institutional shareholders) with an average decrease of 0.9194549, GO (percentage of state ownership as a representative of political relationships) with an average decrease of 0.9251656, and MB (market-to-book ratio) with an average decrease of 1.0659463 also hold significant importance. These results highlight the importance of a precise examination of variables and their effects on the neural network model in predicting the adoption of management accounting.

Based on the neural network analysis results, it can be concluded that political relationships (GO) and corporate governance (IO) influence the relationship between corporate governance and the adoption of management accounting. The combined variable IO*GO, representing the interaction between institutional shareholders and state ownership, holds a higher average decrease compared to other variables. This indicates that political relationships and corporate governance can create more complexities in the model and have a significant impact on the adoption of management accounting. Therefore, when examining the relationship between corporate governance and management accounting, the role of political relationships should also be considered. The examination of hypotheses is as follows:

Hypothesis 1: There is a significant relationship between the percentage of institutional shareholders (IO) and the adoption of management accounting. The neural network analysis results show that the variable IO with an average decrease of 0.9194549 is of high importance and impact to the model. Therefore, it can be concluded

that this hypothesis is confirmed, and the percentage of institutional shareholders has a significant impact on the adoption of management accounting.

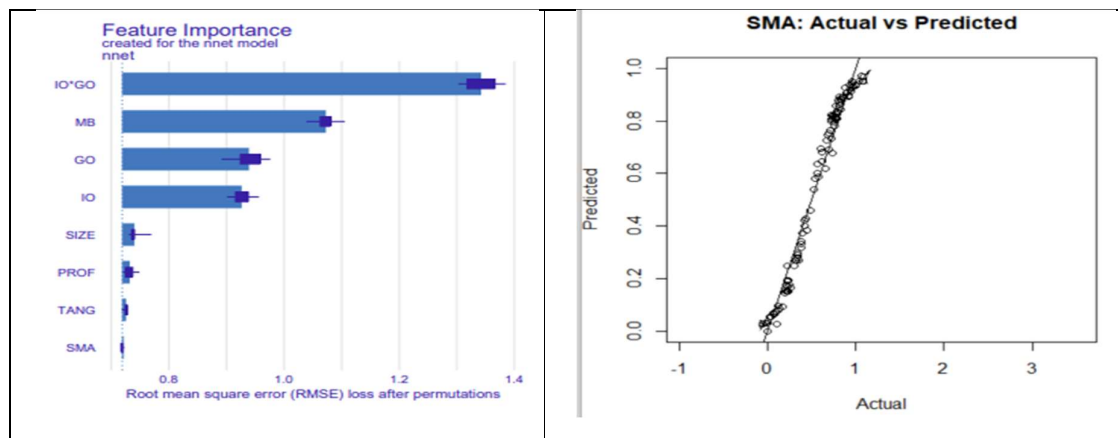
Hypothesis 2: The percentage of state ownership (GO), as a representative of political relationships, affects the relationship between institutional shareholders and the adoption of management accounting. The neural network analysis results show that the combined variable IO*GO with an average decrease of 1.3464801 holds high importance and can create more complexities in the model. This indicates that political relationships (state ownership) influence the relationship between institutional shareholders and the adoption of management accounting. Therefore, the second hypothesis is also confirmed.

Hypothesis 3: There is a significant relationship between company profitability (PROF) and the adoption of management accounting. The neural network analysis results show that the variable PROF with an average decrease of 0.7296079 is of high importance and impact to the model. This result indicates that company profitability can play an important role in the decision-making for the adoption of management accounting. Therefore, the third hypothesis is also confirmed.

Hypothesis 4: There is a significant relationship between company size (SIZE) and the adoption of management accounting. The neural network analysis results show that the variable SIZE with an average decrease of 0.7421561 is of high importance and impact to the model. This result indicates that larger companies are more inclined to adopt management accounting. Therefore, the fourth hypothesis is also confirmed.

In conclusion, based on the neural network analysis results and hypothesis examination, it can be stated that the variables corporate governance (IO), political relationships (GO), company profitability (PROF), and company size (SIZE) have significant impacts on the adoption of management accounting. Additionally, political relationships (state ownership) influence the relationship between institutional shareholders and the adoption of management accounting.

Diagram 1. Diagrammatic examination of neural networks



Source: Research Calculations

The results obtained from the analysis of feature importance charts and the comparison of actual and predicted values in the neural network model indicate that the model has successfully identified important features and provided relatively accurate predictions. From the feature importance chart, it is evident that the interaction between institutional ownership and growth (IO*GO) has the most significant impact on the model, emphasizing the confirmation of the second and fourth hypotheses. Variables such as the market-to-book value ratio (MB), growth (GO), and institutional ownership (IO) also hold high importance and have a significant impact on the model's results. Other variables, such as company size, profitability, type of assets, and market value of equity, also influence the model, though their importance is less compared to the aforementioned variables.

The chart comparing actual and predicted values for the market value of equity (SMA) indicates the appropriate

performance of the neural network model in predicting this variable. The nearly linear trend and proximity of points to the line demonstrate high prediction accuracy. Although there are some deviations and errors in the predictions, the small number of these points indicates the good overall performance of the model in predicting the target variables. By examining these two charts, a better understanding of the various impacts of variables on the model and the predictive power of the neural network can be obtained.

The results of this study, using two advanced prediction models, Support Vector Machines (SVM) and Artificial Neural Networks (ANNs), demonstrated that the variables institutional shareholders (IO), government ownership (GO), profitability (PROF), and company size (SIZE) are the most influential factors in the utilization of management accounting. These variables were identified as key factors in both models and significantly impacted companies' financial and managerial processes. Additionally, the results showed that the interaction between institutional ownership (IO) and growth (GO), representing political and governmental relations within companies, plays an important role in data prediction and analysis. This finding indicates that political and governmental relations significantly affect companies' financial and accounting decision-making. Moreover, variables such as the market-to-book value ratio (MB) and type of assets (TANG) were also identified as influential factors on the utilization of management accounting. These results suggest that investors and managers should pay special attention to these variables to make better financial and managerial decisions and improve company performance.

Conclusion

Considering the results of the neural network analysis and hypothesis examination, it can be concluded that political relations play a significant role in the relationship between corporate governance and the utilization of management accounting. This impact is represented through the combined variable IOGO (interaction between institutional shareholders and government ownership) with the highest mean decline. In other words, political relations play a crucial role in shaping corporate governance structures and management accounting systems. These relations can affect companies' transparency, accountability, and efficiency. In some cases, strong political relations may lead to reduced quality of financial reporting and increased earnings management. Conversely, these relations can facilitate access to resources and business opportunities. In other words, political relations can complicate corporate governance structures and impact managerial decision-making, including the use of management accounting systems. This can lead to challenges in company transparency, accountability, and operational efficiency. Thus, the present study demonstrates that political relations play a prominent role in shaping the relationship between corporate governance and the utilization of management accounting in Iran. This signifies a complex and multilayered structure in the country's economic system where political and economic interests are tightly intertwined. Such a situation could lead to rent-seeking, lack of transparency, and inefficiency in resource allocation. These findings serve as a warning for policymakers and regulatory bodies to consider revising existing structures and establishing more effective control mechanisms. The significant impact of the combined variable IOGO (interaction between institutional shareholders and government ownership) indicates that government influence in the private sector through affiliated institutional shareholders can indirectly affect managerial decisions and the utilization of management accounting tools. This could weaken company independence, reduce efficiency, and ultimately harm the interests of minority shareholders and the national economy. Therefore, it is essential that the country's macroeconomic policies are reviewed and reformed to reduce government control and increase transparency in the relationships between the private and public sectors.

Ultimately, this research emphasizes the importance of creating a healthy and fair competitive environment in Iran's economy. Strong political relations can lead to monopoly, unhealthy competition, and market inefficiency. Therefore, legislative and regulatory institutions should strengthen anti-monopoly and conflict-of-interest laws and ensure their strict enforcement. Additionally, establishing mechanisms to encourage companies that adhere to high standards of corporate governance and transparency can be an effective step towards improving the business environment and increasing public trust in the capital market. These actions can, in the long run, lead to sustainable economic growth, increased foreign investment, and an improved position for Iran in international business indices. As for the impact of political relations on corporate governance and management accounting, the results of this study are consistent with findings from researchers such as Salehi Nia and Tamerrad (2019), Mahmoud Ezamel et al. (2004), and Heidari et al. (2015). These studies show that

political relations can have both positive and negative impacts on corporate governance and management accounting, aligning with our previous findings. Regarding the impact of government ownership on accounting quality and earnings management, our results are in line with the findings of Georgeta et al. (2014) and Ding et al. (2018). These studies demonstrate that government ownership can lead to lower quality accounting items and a higher likelihood of earnings management. Additionally, our results on the impact of corporate governance characteristics on strategic management accounting align with the findings of Andrews (2017) and Ebrahimi and Bokhredi Nasab (2019), indicating that specific corporate governance characteristics can influence the implementation and utilization of strategic management accounting. However, there are some differences. For instance, the results of Rashidian et al. (2014) suggest a positive impact of government ownership on conditional conservatism, which contrasts with some of our results that show government ownership can reduce transparency. Furthermore, Rezazadeh and Khani Langei (2015) show lower conservatism in companies with the largest government shareholders, which does not fully align with our results that political relations can increase conservatism. These differences may stem from variations in study contexts, research methods, or changes in the business environment over time. Finally, the study's recommendations for the current topic are as follows:

1. Reforming corporate governance laws and regulations: The government and legislative bodies should revise corporate governance laws and regulations to impose more restrictions on political influence in companies. This could include setting a cap on government ownership in private companies and mandating the full disclosure of political ties of managers and major shareholders.
2. Strengthening independent supervision and control: Regulatory bodies such as the Securities and Exchange Organization should establish stronger supervisory systems to monitor and control the impact of political relations on company performance and their management accounting systems. This could involve periodic inspections, mandatory transparent reporting of political relations and their impact on managerial decisions.
3. Creating economic incentives to reduce political dependency: The government can offer financial and economic incentives to companies with transparent and independent governance structures free from political ties. These incentives could include lower tax rates, easier access to government financial resources, or priority in receiving public projects.

These recommendations can help improve transparency, efficiency, and effectiveness of corporate governance and management accounting systems in companies, ultimately leading to better economic performance and increased investor confidence.

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