

**The Impact of Top Management Team Characteristics on the
ESG Performance of Chinese Listed Companies**

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Date: January 2026

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Abstract

The alignment of strategic decision-making with corporate performance has become increasingly crucial as firms navigate the dual pressures of a complex global economic landscape and the growing imperative of sustainable development. As the principal drivers of strategic direction within an organisation, the attributes of top management teams exert a profound influence on both corporate trajectories and performance outcomes. The Chinese economy currently stands at a pivotal juncture, characterised by a transition towards high-quality growth. In this evolving context, the ability of enterprises to formulate sound and well-informed strategic decisions amidst uncertainty has garnered considerable interest from both academic circles and industry professionals. In recent years, the prominence of Environmental, Social, and Governance (ESG) principles has grown markedly. Companies are now expected not only to deliver robust financial results but also to demonstrate leadership in environmental contribution, social responsibility, and effective governance. ESG performance has emerged as a key indicator of long-term corporate value and societal impact, drawing significant attention from a wide range of stakeholders, including investors, regulators, and consumers. Against this background, it is of particular importance to investigate the extent to which the characteristics of top management teams influence ESG performance.

This thesis investigates the influence of top management team (TMT) characteristics on ESG performance, drawing upon key TMT demographic traits. Emphasis is placed on examining how these characteristics shape ESG outcomes within firms. In addition, the thesis considers the role of differences in corporate ownership (state-owned or private), analysing its effects on ESG performance. Through the application of quantitative methods, the research uncovers the underlying mechanisms by which TMT attributes and corporate ownership differences impact ESG performance. For example, the extent to which senior executives have experience in research and development boosts ESG outcomes in private firms, but not in state-owned ones, contingent on the institutional setting and market responsiveness. Ultimately, the thesis offers both theoretical contributions and practical guidance to support firms in their pursuit of sustainable development.

TABLE OF CONTENTS

Abstract	i
TABLE OF CONTENTS	I
LIST OF TABLES	III
LIST OF FIGURES.....	IV
Chapter 1. Introduction.....	1
1.1 Background of the thesis.....	1
1.2 Motivations for the thesis.....	2
1.3 Research questions and objectives	3
1.4 Significance of the study.....	4
1.5 Contribution of the Thesis	6
1.6 Structure of the Thesis	7
Chapter 2. Impact of Strategic decision-making mechanisms on ESG performance	10
2.1 Introduction	10
2.2 Strategic Decision-making Theories.....	12
2.2.1 Strategic responses to institutional changes	13
2.2.2 Resource Dependence Theory	16
2.2.3 Agency theory under Conditions of Complexity	18
2.3 Cognitive-Based Perspective on Strategic Decision-making Mechanisms.....	20
2.3.1 Intuition in Strategic Decision-Making	20
2.3.2 Analytical Reasoning in Strategic Decision-Making	22
2.3.3 Reframing in Strategic Decision-Making	23
2.3.4 Integrating Cognitive Mechanisms in Strategic Decision-Making regarding ESG Performance	24
2.4 Behavioural Theories of Strategic Decision-making Mechanisms	25
2.4.1 Limited Rationality and Decision-Making Processes.....	26
2.4.2 Organisational Routines and Procedural Compliance.....	27
2.4.3 Risk Preference and Prospect Theory	28
2.5 Framework of Upper Echelons Theory	29
2.6 Influences on Environmental, Social and Governance Performance.....	33
2.7 Summary	40
Chapter 3. Research Methodology	43
3.1 Introduction	43
3.2 Research Question and Objectives.....	45
3.3 Research Philosophy.....	48
3.4 Data Analysis.....	51
3.4.1 TMT Variables and Hypotheses	51
3.4.2 Data Collection	75
3.4.3 Data Description.....	79
3.4.4 Environmental, Social, and Governance data in China	83
3.4.5 Data Application.....	90
3.5 Reliability and Validity.....	93
3.6 Ethical Considerations	95

3.7 Summary	95
Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG	97
4.1 Introduction	97
4.2 Model Application.....	98
4.2.1 Moderating variables	98
4.2.2 Model specification.....	108
4.3 Hypotheses Formulation	109
4.3.1 Corporate ESG Performance	109
4.3.2 Dimensions of Top Management Teams	110
4.3.3 Relationship between Top Management Teams and Corporate Performance on Strategic Decisions.....	110
4.4 Empirical Analysis.....	113
4.4.1 Regression Models.....	113
4.4.2 Endogeneity Issues	117
4.4.3 Time-lagged Analysis.....	124
4.4.4 Robustness Tests.....	143
4.5 Summary	151
4.5.1 For Companies	151
4.5.2 For Policymakers	154
4.5.3 For Domestic and International Investors	155
Chapter 5. Subgroup Analysis of TMT characteristics on ESG Performance	158
5.1 Introduction	158
5.2 Strategic Decision-making Mechanisms in the Chinese context.....	159
5.2.1 Background of the Chinese Environmental Policy	159
5.2.2 Political affiliations.....	161
5.3 Subgroup Analysis	164
5.3.1 Sample and Model Fit	164
5.3.2 Variable Comparison.....	166
5.3.3 Chow Test.....	169
5.4 Discussion and Summary	172
5.4.1 Theoretical and managerial implications.	173
5.4.2 Summary.....	175
Chapter 6. Conclusion.....	181
6.1 Findings and Contributions	182
6.2 Implications of the Results	184
6.3 Thesis Limitations and Suggestions for Future Research	187
References.....	190

LIST OF TABLES

Table 1 Summary statistics for Chinese listed companies	77
Table 2 Descriptive statistics of top management team characteristics	81
Table 3 Environmental, social, and governance data sources in China from 2009 to 2023	87
Table 4 Definition of variables	101
Table 5 Pearson correlation matrix of key variables.....	103
Table 6 Variance inflation factors of the variables.....	107
Table 7 Regression results of the effect of top management team characteristics on ESG performance	116
Table 8 Regression results of endogeneity tests	123
Table 9 Regression results of the mixed Tobit regression model.....	146
Table 10 Regression results of the effect of top management team characteristics on strategic decisions (Using ESG variables from Sino-Securities Index Information Service)	150
Table 11 Subgroup analysis of the effect of top management team characteristics on ESG performance based on ownership categories	169

LIST OF FIGURES

Figure 1 Thesis organization structure.....	9
Figure 2 Framework of upper echelons theory.....	33
Figure 3 Modified upper echelons perspective of organizations	40
Figure 4 Effects of lagged team size variable on ESG performance	126
Figure 5 Effects of lagged CEO duality variable on ESG performance	128
Figure 6 Effects of lagged age variable on ESG performance.....	130
Figure 7 Effects of lagged educational background variable on ESG performance	131
Figure 8 Effects of lagged executive tenure (time in position) variable on ESG performance	133
Figure 9 Effects of lagged R&D functional track variable on ESG performance.....	135
Figure 10 Effects of lagged remuneration variable on ESG performance	137
Figure 11 Effects of lagged the total number of concurrent directorships held by the executive variable on ESG performance.....	139
Figure 12 Effects of lagged regulatory or government background variable on ESG performance	141
Figure 13 Effects of lagged gender variable on ESG performance	143
Figure 14 Subgroup analysis of the effect of top management team characteristics on ESG performance from the Chow Test	172

Chapter 1. Introduction

This thesis is positioned within the field of management, with particular emphasis on strategic management, corporate governance, and upper echelons research. It investigates the extent to which top management team (TMT) characteristics influence ESG-related strategic outcomes in Chinese listed firms. The study proceeds from the premise that ESG performance reflects not only institutional or regulatory pressures, but also the strategic priorities, cognitive orientations, and governance choices of senior executives. In this respect, the thesis seeks to explain how executive attributes shape firms' responses to sustainability-related challenges within China's distinctive institutional and governance environment.

1.1 Background of the thesis

In an era defined by intensifying global competition and a growing imperative for sustainable development, the mechanisms of strategic decision-making assume heightened importance for corporate resilience and long-term value creation. This is particularly salient in China, where the government has initiated a significant economic transition underscored by rigorous environmental policies. In pursuit of reducing environmental harm and promoting sustainable development, these policies articulate far-reaching carbon-reduction commitments, expand the use of green-finance instruments, and introduce increasingly rigorous emissions standards (Xie et al. 2019). A landmark development in this trajectory was the 2018 amendment to the Code of Governance for Listed Companies by the China Securities Regulatory Commission, which introduced a dedicated chapter on 'Stakeholders, Environmental Protection and Social Responsibility'. This chapter explicitly considers the information that listed companies disclose pertaining to Environmental (E), Social (S), and Corporate Governance (G) matters. Consequently, strategic decision-making concerning ecological and social compliance has become a critical determinant of corporate performance, market competitiveness, and organizational legitimacy. In contrast to conventional financial indicators, ESG performance encompasses firms' long-term commitments in areas such as environmental investment, governance reform, stakeholder engagement, and organisational accountability. These outcomes typically require

coordinated resource allocation, managerial attention, and sustained implementation over time. In this respect, ESG performance may be understood as a strategic manifestation of how top management teams interpret priorities, allocate attention, and translate strategic intent into observable corporate behaviour. Against this backdrop, this thesis investigates the strategic approaches adopted by Chinese listed companies in response to these institutional shifts. Central to this inquiry is an assessment of how the characteristics of top management teams (TMTs) shape the strategic decision-making process. This evolving regulatory landscape presents both profound challenges and strategic opportunities for Chinese firms.

The overarching aim of the thesis is to investigate whether, and under what conditions, TMT characteristics affect ESG performance. The dynamic nature of China's regulatory environment necessitates exceptional agility and strategic foresight from corporate leadership. As articulated by Upper Echelons Theory, a firm's strategic choices and ultimate performance are reflections of its top managers (Hambrick and Mason 1984). The observable characteristics of TMTs—such as experience, educational background, and tenure—significantly influence how strategic issues are perceived and resolved (Huang and Hao 2025). By analysing the conditions under which firms are able to convert regulatory compliance into a source of competitive advantage, this thesis advances the wider debate on sustainable business practice and the role of public policy in shaping corporate conduct. The findings are anticipated to emphasise the value of strategic foresight and organisational adaptability, indicating that firms which engage proactively with regulatory requirements are more likely to secure long-term growth. Ultimately, understanding the interplay between TMT characteristics and strategic decision-making processes relating to ESG performance is crucial for comprehending how Chinese firms can effectively address compliance challenges while seizing opportunities for long-term success in a rapidly transforming landscape.

1.2 Motivations for the thesis

Chinese enterprises currently stand at a pivotal juncture, confronting the dual pressures of an increasingly complex global economic environment and the national strategic shift towards high-quality, sustainable development (Hu et al. 2021). As the core architects of

corporate strategy, TMTs exert a profound influence on an organization's developmental trajectory and performance outcomes. The attributes of these executive teams—spanning demographic characteristics, professional experiences, and cognitive orientations—shape how managers interpret institutional signals and formulate strategic choices, ultimately determining organizational responses to this dynamic context.

Recent years have also seen the ascendancy of ESG principles as a critical framework for evaluating long-term corporate value. Firms are now compelled not only to achieve robust financial results but also to demonstrate accountability in environmental stewardship, social responsibility, and corporate governance. This confluence of internal transformation and external expectation has placed the strategic decision-making process of Chinese firms under intense academic and practitioner scrutiny (Shen et al. 2023; Taglialatela et al. 2024). Therefore, a compelling motivation for this thesis is to understand precisely how TMT characteristics influence the strategic decisions of Chinese listed companies concerning ESG factors in this new era.

Drawing upon the foundational tenets of Upper Echelons Theory, which posits that organizations are a reflection of their top managers, this research is motivated by the need to dissect the mechanisms linking executive attributes with strategic choices. It seeks to move beyond broad assertions to offer granular insights into which characteristics enable or constrain the formulation of sound and forward-looking strategies. By doing so, this thesis aims to contribute to the scholarly discourse on strategic management concerning ESG while providing practical guidance for firms navigating the complexities of China's economic transition and the global sustainability agenda.

1.3 Research questions and objectives

This thesis focuses on the impact of TMT characteristics on the strategic decision-making process of Chinese listed companies concerning ESG. As the second-largest economy in the world, China presents a unique institutional context where the capital market and corporate governance structures are distinct. For instance, significant differences in TMT composition and decision-making processes exist between state-owned enterprises (SOEs) and non-state-

owned enterprises (NSOEs). Furthermore, with the national economy at a critical stage of transitioning towards high-quality development, corporate strategies must now balance market competition with policy orientation and social responsibility. An investigation grounded in the data of Chinese listed companies, therefore, not only provides novel empirical evidence for strategic management theories concerning Environmental, Social, and Governance (ESG) performance but also offers practical insights for firms seeking to optimize their governance structures and enhance the quality of the strategic decision-making processes around ESG.

To fulfil this research aim, the thesis is guided by the following research questions:

- To what extent do the characteristics of top management teams influence the strategic decision-making process of Chinese listed companies concerning ESG?
- How do the characteristics within TMTs, across demographic and experiential dimensions, affect the strategic decision-making process concerning ESG?
- In what ways does firm ownership (state-owned vs. non-state-owned) moderate the relationship between TMT attributes and strategic performance in relation to ESG?

To systematically address these questions, this thesis pursues the following objectives:

- To identify and operationalize key TMT characteristics and establish a robust metric for strategic decisions, utilizing ESG performance as a primary indicator of sustainable corporate strategy.
- To empirically examine the relationship between TMT characteristics and ESG performance within the broad context of Chinese listed firms.
- To analyse and compare the impact of these TMT attributes on ESG performance across different ownership structures, thereby identifying variations conditioned by the firm's institutional environment.

1.4 Significance of the study

The thesis advances knowledge in management by showing that top management teams do matter for strategic outcomes, but that their influence is shaped by the institutional,

governance, and resource conditions within which firms operate.

On a theoretical standpoint, this thesis contributes significantly to the strategic management literature by extending and contextualizing Upper Echelons Theory in relation to ESG within the unique institutional framework of China. While extensive research has examined TMTs in developed Western economies, a considerable gap persists in understanding how executive attributes translate into strategic actions concerning ESG within an environment characterized by the dual influence of state control and market mechanisms. This thesis addresses this gap by systematically investigating how ownership structure—specifically the distinction between state-owned and non-state-owned enterprises—moderates the relationship between a comprehensive set of TMT characteristics and strategic decisions in relation to ESG. Furthermore, by employing ESG performance as a key indicator of strategic orientation, this research bridges the fields of corporate governance and sustainable development. It aims to reveal the internal mechanisms through which TMT composition and ownership difference shape a firm's commitment to long-term value creation, thereby providing a more nuanced and institutionally embedded understanding of executive influence in emerging markets.

From a practical level, the findings of this thesis offer valuable insights for several key stakeholders. For corporate boards and senior executives in China, this thesis provides data-driven guidance on optimizing TMT composition to align with specific strategic objectives, whether related to innovation, risk management, or sustainability. The results can inform leadership selection, succession planning, and the design of more effective governance structures. For policymakers and regulators, the differentiated results for SOEs and NSOEs indicate that a uniform approach to corporate governance reform is unlikely to be optimal. The thesis provides evidence that can inform the design of more targeted and effective governance frameworks. Finally, for domestic and international investors, this study provides a more sophisticated framework for evaluating leadership quality and corporate governance risk in Chinese firms. By analysing TMT attributes, investors can move beyond conventional financial metrics to better assess a company's strategic direction in relation to ESG and long-term viability, ultimately supporting more informed investment decisions in

a complex market.

1.5 Contribution of the Thesis

This thesis contributes to the field of management by deepening understanding of the relationship between executive characteristics, strategic decision-making, and organisational outcomes within a complex institutional setting. In particular, it engages with key discussions in strategic management, leadership, and corporate governance by examining how top management team (TMT) attributes influence ESG performance in Chinese listed firms.

In theoretical terms, the thesis develops management scholarship by extending Upper Echelons Theory to a context in which managerial discretion is shaped not only by internal organisational factors but also by ownership structure and broader institutional forces. Much of the existing management literature has drawn its evidence from developed Western economies and has often treated the link between executive traits and firm outcomes as broadly transferable across contexts. This thesis shows that such relationships are more conditional. By incorporating insights from Agency Theory and Resource Dependence Theory, it demonstrates that executive influence depends on incentive structures, monitoring arrangements, access to resources, and the external legitimacy available to the firm. In this way, the study offers a more contextually grounded explanation of how managerial discretion operates in practice.

In empirical terms, the thesis adds to management research by providing longitudinal evidence from a large sample of Chinese listed companies over a fifteen-year period. This addresses a relative shortage of research on executive influence in emerging market environments and highlights important differences between state-owned and non-state-owned enterprises. The findings suggest that leadership effects are neither uniform nor universal, but vary according to governance conditions and organisational context.

In methodological terms, the thesis strengthens existing research through the use of panel-data techniques combined with extensive robustness tests, including an alternative ESG measure and alternative estimation approaches. This not only improves confidence in the

findings, but also highlights the importance of measurement choice in management research on ESG and corporate strategy.

1.6 Structure of the Thesis

This thesis is structured into six chapters, as shown in Figure 1.

Chapter 1 outlines the introduction and structure, mentions background information, and presents the problem statement that underscores the thesis's importance. It also introduces the research objectives and questions. Chapter 1 delves into the motivation that the study is based on, specifies the research case, and concludes by highlighting the structure of the thesis.

Chapter 2 consists of the key definitions of strategic decision-making mechanisms, followed by an extensive review of the principal theoretical perspectives on how top management teams engage in strategic decision-making. It offers a comprehensive review of predominant theories that explain how organizations formulate and execute strategies to comply with regulations. By examining frameworks such as upper echelons theory (Hambrick and Mason 1984), the chapter elucidates how firms navigate complex policy landscapes to achieve sustainable outcomes.

Chapter 3 starts with the study of the characteristics of top management teams' response mechanisms to strategic decision-making processes. Focusing on the composition and diversity of top management teams, this chapter investigates how variations in team characteristics influence responses to regulations. It analyses factors such as age, gender, tenure and functional background, exploring their impact on strategic choices and environmental performance. The discussion highlights the characteristics of top management teams and ESG performance.

Chapter 4 clarifies the research scope to collect data and to analyse any variations based on the Chinese context. This chapter summarises the key points discussed in Chapter 2, reiterating the importance of understanding theories of strategic decision-making mechanisms in relation to ESG and the unique Chinese context. It emphasizes the relevance of strategic decision-making mechanisms in influencing ESG performance and sets the stage for the empirical investigations presented in the following chapters. The conclusion

underscores the results of the study that examines the relationship between ESG performance and top management team characteristics within the Chinese context and the need for context-specific research to inform policy and practice.

Chapter 5 summarises impacts across different ownership types. The analysis draws on empirical data to illustrate the benefits and challenges of executives' considerations of corporate strategy in China in relation to ESG. This chapter also examines the influence of different ownership types (state-owned enterprises and non-state-owned enterprises) on the formulation and implementation of strategic decision-making process concerning ESG. It analyses how ownership type affects strategic priorities, resource allocation, and compliance with regulations in relation to ESG.

Chapter 6 focuses on the key implications of the findings, outlining their relevance for a range of stakeholders, including academics, practitioners, and policymakers. It outlines practical recommendations for enhancing strategic decision-making in regulation implementation, emphasizes the importance of top management team diversity, and discusses the role of ownership structures in shaping environmental outcomes. The chapter also highlights areas for future research and policy development to promote sustainable business practices.

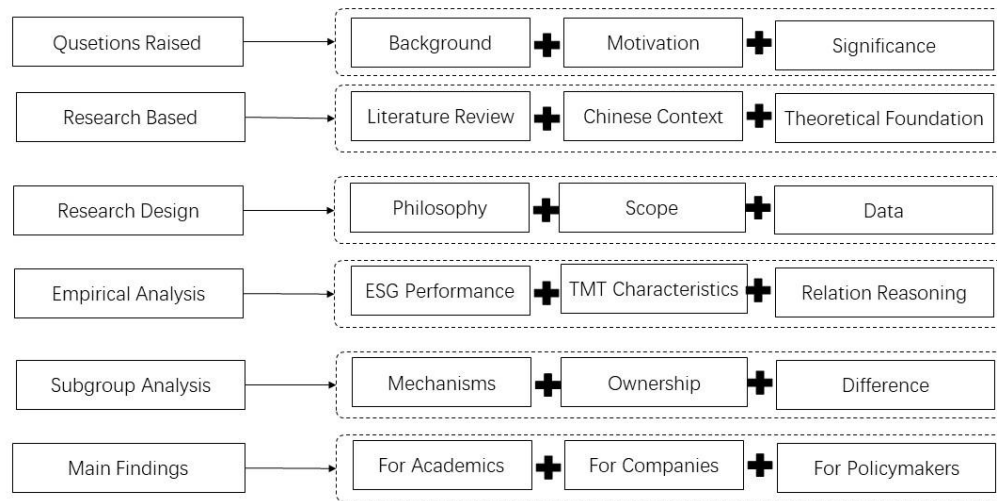


Figure 1 Thesis organization structure

Source: Author

Chapter 2. Impact of Strategic decision-making mechanisms on ESG performance

This chapter adopts multiple perspectives to explore the dynamic factors shaping the relationship between top management teams and corporate strategic choices, with particular attention paid to environmental, social and governance (ESG) performance. To achieve a comprehensive view of the enablers and constraints affecting decision-making in this field, the analysis draws upon a range of theoretical approaches. The literature review is organised around four main strands: (i) the concept of strategic decision-making, (ii) cognitive perspectives on how managerial perceptions influence ESG-related choices, (iii) behavioural theories that explain the effect of social and institutional pressures on ESG adoption, and (iv) the framework of upper echelons theory. Taken together, these strands provide complementary yet distinctive insights, consistent with the aim of assessing how the characteristics and ownership difference of senior executives shape ESG integration within corporate strategies. The upper echelons perspective (Hambrick and Mason 1984) is particularly relevant, as prior scholarship indicates that executives' values, experiences and backgrounds play a critical role in determining ESG outcomes (Boubaker et al. 2022). This theoretical perspective underpins the interpretation of the findings and highlights the implications of leadership diversity and decision-making styles for advancing sustainable corporate practice.

2.1 Introduction

Strategic decision-making mechanisms (Park et al. 2011) concern the structures and processes through which firms are guided and controlled. Broadly, they refer to the mechanisms that influence firm profitability and the distribution of value among stakeholders, including shareholders, managers, employees, customers, suppliers, and the broader community (Bosse et al. 2009). In top management teams, the cognitive differences and complementarities of different members can influence strategic decisions, and the cognitive diversity of team members can contribute to more comprehensive strategic analyses, affecting ESG performance. Potential conflicts of interest that may happen between various parties, such as financiers and managers, majority and minority

shareholders, and internal and external stakeholders. Effective corporate governance ensures that managerial decisions align with the interests of these diverse groups, promoting transparency, accountability, and sustainable business practices. In the context of Chinese corporations, corporate governance structures often exhibit unique characteristics influenced by state ownership and governmental involvement (Cao et al. 2011). The integration of ownership type into corporate governance frameworks adds a layer of complexity, affecting decision-making processes and the balance of power among stakeholders.

Grasping these theoretical frameworks is crucial for examining how Chinese enterprises approach strategic decision-making, especially in relation to macroeconomic policies and ESG performance. The application of cognitive-based perspectives and behavioural theories enables an assessment of how governance mechanisms shape corporate strategies, regulatory compliance and the pursuit of sustainable development objectives. Although the upper echelons theory—by highlighting the influence of executives' values and the interests of stakeholders—provides important insights into ESG outcomes, this analysis concentrates primarily on the cognitive and behavioural lenses, given their more immediate relevance to the strategic decision-making mechanisms evident in Chinese corporate governance.

In this thesis, the expression strategic decision-making mechanisms (Hambrick and Mason 1984) is employed in the context of the management literature, rather than in the more formal sense associated with economics or game theory, which refers to the organisational and managerial processes through which strategic choices are recognised, interpreted, evaluated, and implemented. It therefore encompasses not only formal governance arrangements, such as leadership structure, accountability, and oversight, but also the cognitive and behavioural processes through which top management teams allocate attention, assess alternatives, and commit organisational resources. This interpretation is consistent with the mainstream tradition in strategic management and organisational decision-making, where strategy is understood as emerging from bounded rationality, managerial interpretation, organisational routines, and internal governance processes, rather than from abstract mechanism design alone. From this perspective, strategic decision-making mechanisms describe the practical processes through which firms formulate and enact major strategic responses.

This chapter sets the stage for an in-depth exploration of strategic decision-making mechanism theories and practices. It emphasizes the critical role of top management team in enhancing strategic decision-making mechanisms. Strategic decision-making mechanisms involve a complex interplay of mechanisms and relationships aimed at ensuring that companies are managed in a manner that aligns with the interests of various stakeholders. The application of different theoretical perspectives provides understanding of how these mechanisms function, particularly within the distinctive context of Chinese corporate structures.

This chapter provides the foundation for a detailed examination of theories and practices concerning strategic decision-making mechanisms, highlighting the role of top management teams in strengthening these processes. Strategic decision-making is characterised by a complex interaction of mechanisms and relationships that seek to ensure corporate conduct is aligned with the interests of diverse stakeholders (Hambrick et al. 1996). The adoption of multiple theoretical perspectives offers valuable insight into how these mechanisms operate, particularly within the distinctive institutional setting of Chinese corporate governance. In this context, the integration of environmental, social and governance (ESG) considerations adds further complexity, as decision-making increasingly requires balancing financial objectives with broader societal and environmental responsibilities.

2.2 Strategic Decision-making Theories

The top management team determines the company's strategic decision-making, and the cognitive ability of team members directly affects the quality of strategic decision-making by processing the information in the external environment through meaning construction and transforming it into the basis for strategic decision-making (Hambrick and Mason 1984). Agency theory is a cornerstone of strategic decision-making, emphasizing the relationship between principals (shareholders) and agents (managers) (Jensen and Meckling 1976). It addresses potential conflicts that arise when managers, entrusted with operating the company, may pursue personal interests over those of shareholders. To mitigate such conflicts, mechanisms like performance-based incentives and rigorous oversight are implemented, ensuring adoption of strategic decisions. Complementing agency theory are resource

dependence theory and stakeholder theory. Resource dependence theory, on the other hand, views organizations as interdependent with their external environment. It emphasizes the role of the board in providing access to essential resources and information through their external networks, thereby reducing environmental uncertainties (Reitz et al. 1979). Stakeholder theory posits that managers, acting as stewards, inherently seek to act in the organization's best interests, aligning their goals with those of the shareholders (Clarkson 1995). This perspective suggests that empowering managers can lead to superior corporate performance.

Within the context of Chinese corporations, these theoretical perspectives shed important light on strategic decision-making mechanisms and their implications for environmental, social and governance (ESG) outcomes. The interaction between agency concerns and stakeholder expectations shapes how firms respond to regulatory complexity while pursuing strategic objectives. Resource dependence theory further underscores the significance of external relationships and networks, which carry particular weight in China's rapidly evolving market environment. Although agency theory provides a useful foundation for understanding managerial control and accountability, combining it with insights from stakeholder and resource dependence theories generates a more holistic view. Such a multifaceted approach is especially valuable for examining Chinese corporate governance, where cultural norms, institutional arrangements and mounting ESG pressures collectively influence how strategic decisions are formulated and implemented.

2.2.1 Strategic responses to institutional changes

Strategic responses to external changes refer to how organizations adapt their strategies to respond to shifts in the external institutional environment. These changes may include alterations in regulations, market conditions, societal norms, or technological advancements (Chittoor et al. 2008). Organizations need to modify their strategies to maintain competitiveness, compliance, and long-term success in the face of such changes. The responses can be categorized into several types, depending on the degree of change and the organization's objectives.

Strategic responses to environmental changes

Strategic responses to environmental changes refer to organizations actively working to reshape or influence the institutional environment in a way that benefits their interests, essentially shaping the institutional framework itself (Ball 2016). Strategic responses to environmental changes refer to the actions of organizations or individuals that actively seek to influence and reshape the institutional environment, with the aim of benefiting their own strategic interests (Berrone 2013). Rather than passively adapting to institutional changes imposed by external forces, top management teams seek to actively participate in, and sometimes drive, the transformation of the institutional frameworks that govern industries, markets, or societal structures. These actors are often recognized for their ability to create, modify, or dismantle the rules, norms, and regulations that define the way organizations operate, thus reshaping the business environment itself. Top management teams are typically organizations, networks, or individuals with the resources, vision, and strategic foresight to push for institutional changes that align with their long-term goals. They are not merely reactive to shifts in regulations or industry standards; instead, they engage in efforts to influence or lead these changes. They may leverage their position in the market, their political connections, or their industry expertise to foster new policies, standards, or norms that support their objectives (Keck 1997). Their activities go beyond simple lobbying or advocacy; they work to shape the very institutional infrastructure within which they and others operate. The most well-known examples of strategic responses to environmental changes can often be found in sectors that are undergoing rapid transformation or where institutional frameworks are still evolving. For instance, in emerging industries such as renewable energy, top management teams may work to influence governmental policies that favour sustainable practices, develop new standards for clean technology, or collaborate with other industry players to form coalitions that push for regulatory changes (Carpenter et al. 2004). This type of strategic responses is not just about creating new opportunities for the organization itself but also about altering the competitive landscape to open new pathways for others, thus setting new industry norms.

Strategic responses to social changes

Non-governmental organizations (NGOs) and social movements often play a critical role in institutional entrepreneurs, seeking to create social change by altering laws, social norms, and public policies. Strategic responses to social changes also act as the profit organizations (Bolton et al. 2013). For instance, environmental groups have been instrumental in promoting policies related to climate change, carbon emissions, and sustainability, often working with both governments and corporations to push for systemic changes that align with environmental goals. These movements reshape institutional structures by advocating for new regulations and encouraging corporate responsibility in ways that benefit not only specific organizations but society at large. Strategic responses to social changes are significant by shaping the rules and norms within which they operate, and companies can gain a competitive advantage (Baron 2001). Strategic responses to social changes may be able to access new markets, reduce regulatory burdens, or create a more favourable operating environment that supports long-term growth and profitability. Firms that respond strategically to societal change are often able to gain first-mover advantages or pre-empt rivals by shaping emerging institutional arrangements at an early stage.

Moreover, through strategic responses to social changes, companies can align their strategic goals with societal expectations, potentially improving their reputation and legitimacy in the eyes of consumers, regulators, and other stakeholders (Schlüter et al. 2017). This, in turn, can lead to enhanced stakeholder relationships, increased consumer loyalty, and better access to resources such as capital, talent, or technology. For example, organizations in the tech industry, such as Google, Apple, and Microsoft, have been instrumental in shaping the regulatory environment around data privacy, internet security, and digital rights (Kossinets and Watts 2009). These companies, with their vast resources and market power, use their position to influence legislative frameworks and even co-create industry standards that ultimately benefit their business models. Similarly, they often engage in shaping public discourse around critical issues like net neutrality, AI ethics, and the protection of intellectual property, guiding the future direction of society.

Strategic responses to governance changes

Strategic responses to governance changes are not without their challenges. A typical

illustrative case of strategic responses to governance changes can be seen in the tobacco industry's response to mounting health concerns and governmental regulations. Tobacco companies, historically facing significant external pressure from health advocates and government regulators, have worked to influence public policy by pushing for modified laws and creating new categories of products, such as e-cigarettes, which have a different regulatory framework (Lencucha 2024). Companies that attempt to reshape the institutional environment must navigate significant resistance from entrenched interests and established power structures. Their goal is to reshape the public perception of their industry and gain market access under more favourable conditions, even in the face of social and political opposition. Changing institutional frameworks requires considerable resources, influence, and strategic vision, and not all efforts to reshape the rules succeed. Furthermore, institutional entrepreneurs must carefully balance the short-term risks and costs of engaging in such activities with the long-term rewards they seek to achieve.

Whether in the private, public, or nonprofit sectors, the ability to apply strategic responses to governance changes is increasingly vital for organizations seeking to drive change and secure long-term success in a rapidly evolving world. Strategic responses to governance's changes represents a dynamic and strategic approach to navigating and influencing the institutional environment, but the potential for backlash is also a concern. If the strategic responses to governance changes advocated by companies are seen as self-serving or damaging to other stakeholders, the organization may face reputational damage, legal challenges, or market opposition (Pastor and Veronesi 2012). Thus, top management teams must also manage the delicate process of building alliances and gaining support from key stakeholders while pushing for their vision of institutional change. Organizations that successfully engage in institutional entrepreneurship can redefine industry standards, influence public policy, and gain a competitive advantage by reshaping the very frameworks that govern their operations.

2.2.2 Resource Dependence Theory

Resource dependence theory (Reitz et al. 1979) posits that organizations rely on external resources—such as capital, labour, and raw materials—that are often controlled by other

entities. To secure these essential resources, organizations must strategically manage their external dependencies, which can involve diversifying their supplier base to mitigate reliance on a single source. This approach helps organizations navigate the uncertainties of a dynamic external environment. Within the realm of corporate governance, Resource dependence theory emphasizes the significance of internal structures, particularly the directors, in managing these external dependencies (Haleblian and Finkelstein 1993). This perspective highlights the board's role in facilitating access to valuable resources and information through directors' external networks. It emphasises how board composition contributes to the acquisition of critical resources and helps mitigate uncertainty in the organisational environment.

Michel and Hambrick's (1992) study demonstrated that top management team characteristics, such as size and composition, influence an organization's capacity to attract necessary resources from its environment. This thesis integrates principles from resource dependence theory to explore the impact of board size and activity on strategic decision-making, aiming to deepen the understanding of how internal governance structures can optimize resource acquisition and utilization. According to resource dependence theory, larger boards are advantageous because they bring a broader spectrum of expertise and external connections, enhancing the organization's ability to secure critical resources (Casciaro and Piskorski 2005). Empirical research supports this view, indicating a positive correlation between board size and firm performance. Additionally, resource dependence theory suggests that more diversity managers—those that come from different background—are better equipped to effectively utilize available resources (Boyd 1995). Different background provides managers with the opportunity to address emerging challenges and make timely decisions, thereby improving organizational performance, including ESG outcomes.

From the perspective of the resource dependence theory, organisations that leverage internal strengths—such as governance expertise, sustainability initiatives, and regulatory compliance capabilities—can transform compliance challenges into a competitive advantage (Bromiley and Rau 2016). A pertinent example is the tightening of environmental regulations, which require businesses to reduce carbon emissions. Firms that adopt sustainable practices,

engage in policy discussions, and maintain transparency can reduce future costs while reinforcing their legitimacy. From an institutional theory perspective, companies that embed environmental compliance into their strategic frameworks, set clear sustainability objectives, and participate in industry-wide initiatives can strengthen stakeholder trust. Aligning executive incentives with long-term environmental commitments ensures that decision-makers prioritise responsible business practices alongside financial performance.

2.2.3 Agency theory under Conditions of Complexity

Agency theory offers a useful framework for understanding how organisations become increasingly complex as they manage relationships between principals (such as owners, shareholders, or regulators) and agents (including executives and policymakers) (Fama and Jensen 1983). As organisations expand, they face challenges related to information asymmetry, conflicting interests, and misaligned incentives, complicating governance structures. A crucial factor in addressing these challenges is organisational legitimacy—the extent to which a firm’s actions are perceived as appropriate within a broader social and regulatory context (Arnold and de Lange 2004). However, sustaining legitimacy becomes more demanding when external policies shift, requiring organisations to adjust their governance mechanisms and strategic direction.

Regulatory changes often exacerbate agency-related issues by introducing new compliance obligations, altering stakeholder expectations, and necessitating operational changes. In the context of environmental, social and governance (ESG) performance, stricter regulations typically lead to higher monitoring costs, as organisations must allocate additional resources to oversight and reporting to bridge information gaps between managers and stakeholders. Furthermore, policy shifts may require organisations to restructure incentives to ensure managerial priorities remain aligned with long-term objectives rather than short-term personal gain. Failing to navigate these complexities effectively can increase agency costs, weaken stakeholder trust, and undermine corporate performance (Dalton et al. 1998).

From an agency theory standpoint, organisational legitimacy can be classified into pragmatic,

moral, and cognitive forms, each shaping how stakeholders assess a firm's actions (Bromiley and Rau 2016). Pragmatic legitimacy is rooted in self-interest, as stakeholders evaluate whether managers contribute to value creation. Moral legitimacy relates to ethical considerations, requiring organisations to demonstrate responsible conduct. Cognitive legitimacy, on the other hand, is based on societal recognition and the extent to which an organisation's actions are perceived as natural and justifiable. Policy changes may disrupt all three dimensions of legitimacy, compelling organisations to ensure compliance, reinforce ethical leadership, and align with evolving societal expectations to maintain credibility (Boyd 1995).

A key approach to mitigating agency challenges and preserving legitimacy is proactive engagement with policymakers. Drawing on rational choice and game theory, organisations that anticipate regulatory changes and actively contribute to policy discussions can help shape industry regulations to align with their strategic priorities (Finkelstein and Daveni 1994). Such engagement reduces uncertainty, allowing firms to adjust their internal decision-making processes to meet new institutional demands. Moreover, stakeholder theory highlights the need for robust governance structures—such as board oversight, executive accountability, and transparent communication—to ensure alignment with the expectations of investors, regulators, employees, and society at large. Strengthening these governance mechanisms fosters transparency and reduces information asymmetry (Alkaraan and Northcott 2007). Agency theories provide a useful framework for understanding how organisations respond to regulatory changes while addressing agency concerns and maintaining legitimacy. These theories propose that decision-making is influenced by factors such as bounded rationality, stakeholder pressures, institutional constraints, and governance structures. As regulations evolve, firms must adopt structured decision-making approaches that balance compliance, competitive positioning, and stakeholder expectations. By incorporating strategic decision-making theories alongside agency theory, organisations can strengthen governance, enhance credibility, and secure long-term sustainability.

The ability to adapt efficiently to regulatory shifts is another vital aspect of strategic decision-making. The dynamic capabilities framework stresses the importance of investment

in compliance systems, organisational flexibility, and the integration of ethical considerations into decision-making (Bolton et al. 2013). Firms that prioritise continuous learning, innovation, and adaptability are better equipped to respond effectively to regulatory shifts while minimising operational disruptions. By integrating strategic decision-making theories with agency theory, organisations gain deeper insight into how to navigate regulatory challenges, manage complexity, and sustain legitimacy. Implementing structured decision-making models, reinforcing governance, and fostering adaptability enables firms to balance regulatory compliance with long-term strategic success (Kostova and Zaheer 1999). As the regulatory environment continues to evolve, firms that adopt ethical, well-informed and forward-looking approaches to decision-making—particularly in relation to environmental, social and governance (ESG) responsibilities—are more likely to achieve sustainable growth and long-term resilience.

2.3 Cognitive-Based Perspective on Strategic Decision-making Mechanisms

The complex process of strategic decision-making plays a decisive role in shaping an organisation's trajectory and overall success. Within this process, analytical reasoning represents a structured and logical approach that draws on data-driven evaluation, systematic information processing and rational procedures to guide choices. This section considers reframing, analytical reasoning and intuition as the three principal cognitive mechanisms underpinning strategic decision-making. It examines the characteristics, functions and potential limitations of each mechanism, drawing on contemporary scholarship and theoretical perspectives, and explores how their integration may enhance decision-making quality. In the context of environmental, social and governance (ESG) performance, the combination of these cognitive processes is particularly significant, as it enables firms to balance rigorous analysis with adaptive thinking and value-based judgement when addressing complex sustainability challenges.

2.3.1 Intuition in Strategic Decision-Making

A cognitive mechanism called intuition helps people make decisions quickly, frequently without using conscious thought. Intuition is a component of System 1, which naturally,

subconsciously, and holistically analyses information (Dane and Pratt 2007). It has its roots in the dual-processing theory of cognition. By using heuristics and pattern recognition, this system enables people to quickly make decisions by utilizing their vast experience and knowledge. According to Dane and Pratt (2007), intuition may be understood as judgments infused with affect that emerge swiftly, without conscious deliberation, and draw upon holistic patterns of association. When there is a lack of time, inadequate knowledge, or a highly dynamic environment, it is especially helpful. Strategic decision-making relies heavily on intuition, especially in situations that are complex, unclear, and time-sensitive. These traits are becoming more prevalent in contemporary commercial settings where decision-makers must move quickly and effectively due to economic instability, shorter product life cycles, and rapid technical breakthroughs. In such contexts, intuition enables managers to rapidly assess situations, draw together and interpret extensive information, and operate effectively despite incomplete knowledge. Managers can make decisions relating to ESG performance more quickly than they could using only analytical methods thanks to their capacity to quickly scan for cues and compare them with prior experiences.

The efficiency of intuition is also significantly influenced by environmental dynamic (Hodgkinson and Sadler-Smith 2018). In highly dynamic settings, like the financial or technology sectors, where things change quickly, intuition can assist decision-makers in seeing new opportunities and risks and swiftly adapting to changing circumstances. Furthermore, the importance of intuition is influenced by the features of strategic decisions, including familiarity, ambiguity, and time constraints. Because of its capacity to process little information, intuition also plays a big part in ESG strategic decision-making. Decision-makers deal with situations when data is scarce, erroneous, or changing quickly in various strategic contexts. Managers can rely on their instincts rather than wasting time looking for ideal information that might not exist or might quickly become outdated. They can make decisions faster and adjust to changing circumstances more skilfully with this method.

Intuition is a cognitive process that facilitates quick decisions based on experience and implicit information. In dynamic and uncertain contexts, it works especially well for seasoned decision-makers. Organizations can more effectively use intuition to improve their

strategic decision-making processes by comprehending its nature and traits. Additionally, intuition can lead to inconsistent decision-making, which can compromise organizational coherence and strategic alignment, especially in situations that are unexpected or complicated. Additionally, intuitive choices frequently prioritize short-term results over long-term effects, which could undermine the longevity of the company.

2.3.2 Analytical Reasoning in Strategic Decision-Making

Analytical reasoning stresses methodical deliberation, involving the gathering of pertinent data, the identification of causal relationships, and the application of frameworks like SWOT analysis, cost-benefit assessments, or scenario planning, in contrast to intuitive decision-making, which happens quickly and subconsciously. By analysing how people process information, weigh options, and make decisions, cognitive-based viewpoints offer important insights into the processes that underlie strategic decision-making (Gavetti and Levinthal 2000). By asking decision-makers to break down complicated issues into digestible parts, evaluate the available data, and thoroughly examine hypotheses, this process places a high priority on objectivity. It is especially appropriate for situations requiring accuracy and accountability, such as long-term investments, risk management, or ESG compliance, because of its features, which include a focus on empirical evidence, sequential logic, and transparency in reasoning. Analytical reasoning helps businesses minimize biases and align decisions with strategic goals by combining quantitative models and qualitative insights. Its strength, however, is in striking a balance between thoroughness and flexibility, making sure that organized analysis enhances other cognitive processes like intuition and reframing rather than stifling creativity.

Despite being essential for well-informed strategic decision-making, analytical reasoning has inherent constraints that, if not properly managed, could reduce its efficacy. The propensity for analysis paralysis, in which decision-makers become so enmeshed in gathering data and improving models that they postpone or refrain from acting completely, is one major concern (Gavetti and Levinthal 2000). For example, a business may overanalyse market entrance alternatives by performing countless competitor assessments, risk simulations, and feasibility studies, only to lose out on a crucial window of opportunity when

rivals take the initiative. When complicated, nuanced issues are oversimplified into quantitative factors, excluding contextual nuances like company culture, staff morale, or changing customer feelings, this over-reliance on thorough analysis can also result in reductionism. For instance, if a company evaluates a merger only using financial measures, it may fail to consider cultural misalignment between merging teams, which could compromise the effectiveness of the integration.

Decision-makers can steer clear of analytical reasoning's pitfalls and capitalize on its advantages to create robust, comprehensive strategies by recognizing its limitations. But when it is matched with agility—avoiding "analysis paralysis" by establishing decision thresholds or incorporating iterative feedback loops—its true worth becomes apparent. In the end, analytical reasoning turns disjointed data into logical plans, enabling businesses to precisely manage uncertainty while preserving flexibility in ever-changing marketplaces. In summary, intuition is a powerful tool in strategic decision-making process, particularly in complex, uncertain, and time-pressured environments. It allows managers to leverage their experience and expertise to make rapid, effective decisions. When paired with analytical reasoning, intuition can be useful in unknown environments, while it works best in familiar ones. Organizations can improve their ability to adapt and thrive in changing business contexts by comprehending and incorporating intuition into ESG strategic decision-making.

2.3.3 Reframing in Strategic Decision-Making

As a cognitive technique in strategic decision-making, reframing is purposefully changing the conceptual frameworks that decision-makers use to understand issues, opportunities, or obstacles (Dutton and Dukerich 1991). It is a dynamic process of changing viewpoints to find different ways to understand the same data, which helps businesses go beyond traditional thinking and find new methods to take action. Reframing, which has its roots in cognitive flexibility theory, reinterprets long-held beliefs, redraws the parameters of the problem, and reorganizes the connections between variables in a decision-making context. In contrast to analytical reasoning, which stresses structured logic, or intuition, which depends on quick pattern identification, reframing thrives on ambiguity and creativity, turning apparent limitations into opportunities. Organizations can overcome traditional

thought patterns and find creative answers to challenging strategic problems by using reframing, a potent cognitive strategy. At its most effective, reframing changes the way decision-makers view and understand crucial business circumstances, turning challenges into opportunities. When businesses encounter issues that appear unsolvable or when conventional analytical methods produce declining results, this cognitive mechanism shows to be especially helpful. Reframing encourages innovative thinking in solution production by presenting different viewpoints that might not otherwise be considered. Three crucial components of strategic decision-making—problem diagnosis, solution development, and opportunity identification—make the potential of reframing particularly clear. Reframing aids decision-makers in avoiding premature closure on problem definitions when dealing with complicated ESG issues.

Reframing has become an essential strategic capability in an era of rapid change and increasing complexity. Organisations that employ this cognitive approach are better positioned to navigate uncertainty, exploit industry disruptions and sustain a competitive advantage amidst continual transformation. When practised deliberately rather than sporadically, reframing enables decision-makers to unlock transformative potential, even in highly challenging circumstances. Leadership plays a pivotal role in cultivating the conditions under which reframing can be most effective. Establishing psychological safety encourages employees to question established assumptions without fear of reprisal, while the formation of diverse teams introduces a wider range of perspectives that naturally facilitate reframing. Incorporating structured periods of reflection into the decision-making process further supports the emergence of alternative interpretations. Reframing is particularly valuable for shifting perceptions of sustainability from a regulatory obligation to a strategic opportunity, thereby fostering innovative ESG solutions that align long-term profitability with societal and environmental objectives.

2.3.4 Integrating Cognitive Mechanisms in Strategic Decision-Making regarding ESG Performance

Reframing, analytical thinking, and intuition are frequently integrated in effective strategic decision-making. In addition to applying analytical reasoning to assess and justify their

intuitive judgments, decision-makers can profit from utilizing intuition's quickness and capacity for pattern identification (Berry and Broadbent 1988). Reframing provides a means of challenging assumptions and exploring alternative perspectives, thereby helping to bridge the divide between different decision-making approaches. Enhancing organisational effectiveness requires an appreciation of the cognitive processes underpinning strategic decision-making. The relative influence of intuition, analytical reasoning and reframing is shaped by individual knowledge, organisational culture and broader contextual factors. Long-term success can be achieved when firms integrate these processes and cultivate adaptive decision-making capabilities. Research indicates that the most effective leaders are those able to switch flexibly between cognitive mechanisms according to situational demands. Such agility depends on high levels of metacognitive awareness and the ability to judge which approach is most appropriate in a given context. For example, intuition and reframing may prove especially valuable in identifying emerging opportunities or responding swiftly in rapidly changing environments, while analytical reasoning may be more effective for optimising existing operations and mitigating risks in stable settings. In relation to environmental, social and governance (ESG) performance, this capacity for cognitive flexibility enables organisations to balance innovative sustainability initiatives with rigorous risk management, thereby aligning long-term value creation with societal and environmental responsibilities.

2.4 Behavioural Theories of Strategic Decision-making Mechanisms

Strategic decision-making mechanisms are fundamental to the success and long-term viability of organizations, guiding how key decisions are made, evaluated, and executed. Gaining insight into the behaviour of top management teams through the behavioural theory provides a deeper understanding of how decision-making and leadership dynamics evolve within organisations (Cyert et al. 1959). Behavioural theory, particularly when applied to organisational behaviour and management, explores the complexities of how individual and group actions impact decisions at the highest levels. Central to behavioural theory is the idea that top management teams do not make decisions in isolation; rather, they are shaped by their interactions with one another and the wider organisational environment (Carmeli and

Schaubroeck 2006). Group dynamics, such as conformity, power structures, and communication patterns, play a significant role in influencing executive behaviour. In addition, individual behaviours, such as cognitive limitations and personal biases, affect the quality of decisions. Executives often rely on heuristics or previous experiences to navigate complex situations, which can lead to satisficing—choosing a satisfactory option rather than the optimal one. Behavioural theory acknowledges that leaders are not simply rational decision-makers, but are influenced by a range of psychological factors, including cognitive biases, emotions, social dynamics, and external pressures (Bromiley and Rau 2016). For example, firms seek social legitimacy, where organisational identity is purpose oriented, ESG considerations are embedded within core strategy.

2.4.1 Limited Rationality and Decision-Making Processes

Top management teams, like all decision-makers, operate under constraints of limited rationality, meaning they cannot process all available information or predict every outcome with certainty. Due to time constraints, cognitive limitations, and incomplete data, they often engage in “satisficing”—choosing a solution that is adequate rather than optimal (DiMaggio, and Powell. 1983). At the heart of strategic decision-making lies the interaction between the board of directors and executive management. The board’s primary function is to provide oversight, articulate strategic direction, and ensure that organisational decisions remain aligned with the long-term interests of the firm and its stakeholders. Executive management, responsible for the organisation’s daily operations, translates the board’s strategic intent into practical initiatives, balancing the pursuit of longer-term objectives with the demands of immediate operational performance. The complexity of the situation, the availability of information, and the urgency of the decision all influence this process.

Within any organisation, top management teams must navigate the complexities of goal conflict, where different departments or stakeholders may have competing priorities (Michel and Hambrick 1992). For instance, the marketing department might focus on expanding the customer base, while finance may be more concerned with cost management. Effective coordination mechanisms, such as cross-functional teams, aligned performance incentives, and transparent communication, are vital for resolving these conflicts about ESG

performance. Top management teams must ensure that organisational strategies are aligned with broader corporate objectives, often requiring trade-offs between short-term gains and long-term goals. How these conflicts are managed can significantly impact the overall success of the organisation. These mechanisms shape the processes through which organizations align their strategies with both internal resources and external market dynamics. A well-structured decision-making framework ensures that decisions are consistent with the organization's overarching goals, values, and governance principles, ultimately driving sustained growth and competitive advantage (Song 2009). In a world of constant change and uncertainty, these mechanisms help organizations respond proactively to challenges and seize opportunities, thus securing their position in the market. By integrating these psychological and social elements, behavioural theory offers a more nuanced understanding of executive behaviour, revealing that decisions are often far from purely rational. Instead, they are influenced by a combination of cognitive biases, emotional responses, and interpersonal dynamics, making the behaviour of top management teams more complex and multifaceted than traditionally assumed.

2.4.2 Organisational Routines and Procedural Compliance

Top management teams frequently rely on established organisational routines and procedures to streamline decision-making and reduce uncertainty (Child 1972). These routines offer a structured approach to recurring challenges, ensuring consistency and compliance with internal standards and external regulations. A well-defined governance structure is essential for maintaining the integrity and transparency of the strategic decision-making process. Strong governance ensures that decision-making is not only efficient but also aligned with the organization's values and legal responsibilities (Nagano et al. 2014). It fosters accountability by establishing clear roles and responsibilities, ensuring that decisions are made in a consistent and transparent manner. Sound governance enhances the organization's credibility with external stakeholders, such as investors, regulators, and customers. Transparency in decision-making builds trust and reduces the risk of conflicts of interest or unethical practices. Companies with strong governance structures are more likely to attract investment and partnerships, as stakeholders are confident that decisions are made

with long-term sustainability in mind.

However, excessive reliance on procedural compliance can lead to organisational inertia, stifling flexibility and preventing the company from adapting swiftly to new opportunities or challenges. When top management teams rigidly follow these routines, they may overlook innovative solutions or fail to respond effectively to shifts in the market. In an increasingly dynamic business environment, organisations must retain a high degree of agility, adapting their strategies as circumstances evolve and as new challenges or opportunities emerge. Strategic flexibility is a key component of effective decision-making, allowing organizations to adapt quickly without losing sight of their long-term objectives (Fourné et al. 2023). By incorporating feedback mechanisms and continuously monitoring internal and external conditions, organizations can anticipate changes and adjust their strategies proactively. Flexibility also means being open to innovation and new ideas, which can help organizations stay ahead of market trends and technological advancements. This adaptability is especially important in industries where disruption is common, and companies must be able to pivot quickly to capitalize on new developments or mitigate risks. A decision-making framework that is both structured and adaptable gives organizations the best chance to remain competitive and resilient in the face of uncertainty.

2.4.3 Risk Preference and Prospect Theory

The decision-making of top management teams is frequently shaped by their underlying risk preferences, which are in turn influenced by psychological biases articulated within prospect theory. When faced with potential gains, executives tend to exhibit risk aversion, favouring safer options with more predictable outcomes (Kahneman and Tversky 1979). However, when confronted with potential losses, they may show risk-seeking behaviour, driven by the desire to avoid the discomfort associated with loss. This tendency to exhibit risk aversion when outcomes appear favourable, yet to pursue risk when confronted with potential losses, may cause top management teams to adopt decision-making patterns that lack internal consistency. In some cases, they may pursue riskier ventures when they feel they have more to lose or gain, even when rational analysis suggests a safer alternative would be more appropriate.

Strategic decision-making involves a careful evaluation of risks and rewards. In an environment of constant economic and market fluctuations, organizations must be able to assess potential risks against the benefits of each strategic choice (Pástor and Veronesi 2013). A strong decision-making framework allows leaders to make informed decisions, weighing the possible outcomes and uncertainties of each course of action. Top management teams' decision-making is often a collaborative process involving multiple individuals, which introduces the potential for cognitive biases to influence the outcome. Groupthink is a common phenomenon, where the desire for consensus leads to a lack of critical evaluation and the suppression of dissenting opinions (Song 2009). Top management teams may also be subject to confirmation bias, favouring information that reinforces their prior beliefs, and to escalation of commitment, persisting with an unsuccessful course of action because of resources already invested. These biases can distort group decisions, resulting in suboptimal choices that may not have been made in an individual decision-making context. Identifying and mitigating these cognitive biases is essential for ensuring more effective group ESG decision-making.

2.5 Framework of Upper Echelons Theory

The modification of Hambrick and Mason's (1984) original cognitive-based model of strategic decision under conditions of bounded rationality represents a meaningful theoretical advancement. Hambrick and Mason (1984) proposed that top executives' strategic choices were heavily influenced by their personal cognitive frames and values, filtered through their limited field of vision and selective perception. While this model was groundbreaking in moving beyond environmental determinism and acknowledging human agency in strategic decision-making, it remained largely focused on individual-level cognition and did not fully account for the broader organisational, political, and resource-based forces that shape executive choices. By integrating Agency Theory, Resource Dependence Theory, and Behavioural Theories into the framework, the modified model offers a more comprehensive, multi-level explanation of how ESG strategic choices are formed under bounded rationality.

Agency Theory, as developed by Jensen and Meckling (1976), highlights the conflicts of

interest that arise when there is a separation of ownership and control within the firm. Executives (agents) may pursue strategies that serve their own interests rather than those of shareholders (principals), unless appropriately monitored and incentivised. From an agency perspective, strategic choices are not only filtered through individual cognitive biases but are constrained and shaped by incentive structures, monitoring mechanisms, and the threat of sanctions in China. Executives may choose strategies that balance personal risk aversion, career preservation, or bonus optimisation, rather than purely those that maximise firm value. Thus, incorporating Agency Theory into the modified model adds an internal governance lens, recognising that the strategic behaviour of executives is influenced by the formal and informal governance systems within which they operate. This addition is critical because it accounts for the fact that even rational or well-intentioned managers may make suboptimal decisions due to misaligned incentives or incomplete monitoring.

Resource Dependence Theory, originally articulated by Pfeffer and Salancik (1978), argues that organisations are not autonomous but are deeply embedded within external networks of interdependencies. An organisation's ability to endure and prosper hinges on securing and managing access to essential resources, many of which are controlled by external actors such as suppliers, customers, competitors, and governmental bodies. In the context of ESG strategic decision-making, Resource Dependence Theory suggests that executives do not merely filter environmental signals through their cognitive lenses, but actively assess their firm's power position within the external environment, especially in the Chinese context. Strategic choices on ESG issues are therefore shaped by the need to manage dependencies, reduce vulnerabilities, and enhance resource control. Incorporating Resource Dependence Theory into the bounded rationality model acknowledges that executives are strategic actors who must negotiate and manage external constraints, often making decisions not solely based on internal interpretations but also on maintaining advantageous resource relationships. This external dimension is especially significant in emerging markets or politically unstable contexts, where access to vital resources—such as capital, regulatory authorisations, or advanced technologies—tends to be less predictable.

The Behavioural Theories, articulated by Cyert et al. (1959), offers a further complementary

perspective. It challenges the notion of organisations as rational, profit-maximising entities, proposing instead that they operate according to bounded rationality, organisational routines, problematic search, and satisficing behaviour. According to Behavioural Theories strategic choices are path-dependent and heavily influenced by existing routines, standard operating procedures, and the organisation's historical experiences. Chinese Firms tend to search for solutions only when performance falls below aspiration levels, and the search is often local and incremental rather than global and comprehensive. Integrating Behavioural Theories into the model shifts attention from purely individual cognitive limitations to collective organisational dynamics. Executives inherit and work within existing structures that shape what problems they perceive as salient, what alternatives they consider feasible, and how aggressively they pursue change. Therefore, bounded rationality is not just an individual constraint but an organisational characteristic that shapes strategic choices in systematic ways.

By integrating Agency Theory, Resource Dependence Theory and Behavioural Theory, the adapted framework provides a more institutionally embedded and politically sensitive account of strategic choice under bounded rationality. Whereas earlier models largely emphasised cognitive interpretation within a relatively passive environment, this revised perspective acknowledges that executives are embedded in, and constrained by, external power structures, internal governance arrangements and organisational histories. Strategic choices therefore emerge through negotiation between external dependencies, internal incentive systems and established routines, rather than being a simple projection of managerial cognition and values. This richer theoretical structure offers greater explanatory power for understanding how firms respond to the complex demands of environmental, social and governance (ESG) performance. Governance dynamics, encompassing board oversight, ownership structures and incentive alignment, mediate how organisations balance short-term profitability with long-term sustainability commitments. In emerging markets, state-owned enterprises or industries experiencing regulatory transformation, this integrative approach is especially valuable, as it reveals how ESG initiatives are simultaneously influenced by institutional pressures, stakeholder demands and entrenched organisational

practices (Dong et al. 2025).

The modified framework also improves upon the original by offering a better basis for empirical testing and operationalisation. While the cognitive model proposed by Hambrick and Mason (Hambrick 1984) faced challenges in measuring internal cognitive frames and selective perception objectively, the integration of Agency Theory, Resource Dependence Theory and Behavioural Theories allows for more observable proxies and testable hypotheses. Agency problems can be assessed by examining ownership structures, remuneration systems or the intensity of board monitoring; and behavioural constraints may be proxied by organisational age, standard operating procedures or historical performance trajectories. This expanded model therefore strengthens both theoretical depth and empirical tractability. Importantly, the framework also aligns with contemporary developments in strategic management research that stress multi-level and cross-theoretical integration. Scholars increasingly acknowledge that no single perspective can fully explain the complexities of organisational behaviour. Strategic decisions are instead shaped by a combination of cognitive, political, economic and historical forces, requiring integrative approaches that can accommodate this diversity. When applied to environmental, social and governance (ESG) performance, this extension is particularly valuable. By weaving together cognitive interpretations, external dependencies, agency relations and behavioural path-dependencies, the modified framework offers a more realistic and nuanced account of how executives make decisions that balance financial performance with ESG imperatives.

In summary, extending the bounded rationality model to integrate Resource Dependence Theory, Agency Theory and the Behavioural Theory of the Firm provides a far richer account of strategic decision-making, as illustrated in Figure 2. The framework shifts the focus from individual cognition to encompass external environmental pressures, internal governance constraints and organisational learning processes. This broader perspective not only addresses key limitations of the original model but also creates new opportunities for empirical investigation and practical application. In the context of environmental, social and governance (ESG) performance, the revised model offers a stronger foundation for understanding why firms adopt sustainability strategies, how executives reconcile competing

pressures from regulators, investors and stakeholders, and why certain ESG patterns persist or evolve across time. By capturing the interplay of institutional forces, governance dynamics and behavioural routines, the framework advances towards a more holistic and contextually embedded theory of strategic choice under bounded rationality, one that reflects both financial imperatives and the growing salience of ESG responsibilities.

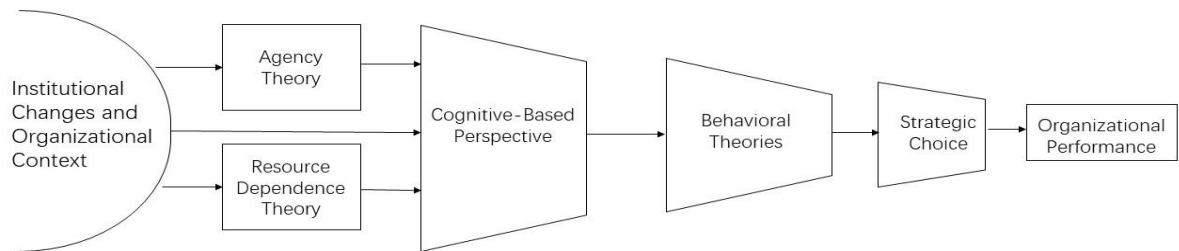


Figure 2 Framework of upper echelons theory

Source: Based on Hambrick and Mason, 1984

2.6 Influences on Environmental, Social and Governance Performance

The thesis adopts this management-oriented understanding because its central concern is to examine how top management team characteristics shape ESG-related strategic choices. The focus is therefore not on formal optimisation or equilibrium outcomes, but on the ways in which senior executives interpret ESG-related pressures, determine priorities, and translate those judgements into observable organisational outcomes. Accordingly, the term is used here to denote the managerial and governance processes through which executive attributes become strategically consequential within the firm.

Based on the determinants of ESG performance (Martiny et al. 2024), the modification of Hambrick and Mason's (1984) Upper Echelons Framework to explicitly integrate ten distinct

executive characteristics represents a significant theoretical advancement in strategic management and corporate governance research. While the original model established the foundational notion that organisational outcomes are, at least partially, a reflection of the characteristics of top executives, it remained relatively broad in its conceptualisation. It primarily focused on general attributes such as the cognitive base and values of managers, without systematically specifying the operational dimensions that could be observed, measured, and tested across firms and contexts.

From a cognitive perspective, senior executives vary in systematic ways in how they recognise, prioritise, and interpret ESG-related information, and these variations exert a formative influence on firms' strategic paths (Rajesh and Rajendran 2020). The paper demonstrates that observable characteristics of the board are robustly associated with ESG performance, indicating that such characteristics serve as indirect indicators of underlying cognitive frames and attention patterns. Crucially, the dynamic analysis shows that the influence of executive attributes on ESG performance materialises gradually, in line with attention-based and cognitive theories of strategy. Rather than producing immediate shifts, executive cognition affects which issues persist on the strategic agenda, how organisational resources are channelled, and how routines and evaluative criteria are progressively institutionalised. ESG performance thus appears as a path-dependent consequence of enduring managerial beliefs and interpretative schemes, rather than as a sequence of discrete reactions to external demands.

From an agency perspective, TMT structures and governance play a central role in this context (Tang et al. 2025). The concentration of authority implied by CEO duality may weaken effective monitoring by the board, increasing managerial discretion and potentially discouraging investment in ESG activities that do not yield immediate financial returns. By contrast, stronger oversight mechanisms and internal monitoring can discipline managerial behaviour and encourage the adoption of ESG practices that enhance transparency and accountability. The form of executive remuneration is frequently invoked as a mechanism for attenuating the agency conflict between managers and shareholders (Arnold and de Lange 2004). Governance analysis indicates that the effects of executive characteristics on

ESG performance emerge over time, which is consistent with agency theory's emphasis on long-term incentive alignment and governance effectiveness. From this perspective, ESG performance can be understood as an outcome of how successfully governance mechanisms and managerial incentives constrain self-interested behaviour and align executive decision-making with principals' long-term objectives, thereby extending agency theory by highlighting the role of executive characteristics in shaping sustainability-related agency outcomes.

From the resource dependence theory and agency theory, ESG strategies represent purposeful responses through which firms seek to manage uncertainty, secure legitimacy, and stabilise access to key resources such as capital, regulatory approval, reputational assets, and stakeholder support Harjoto and Wang (2020) find that ESG performance varies systematically with top management team (TMT) characteristics indicates that executives differ in their network to recognise and manage these external dependencies. Governance structures also have implications within an RDT framework: the concentration of authority implied by CEO duality may weaken the board's boundary-spanning role and limit access to diverse external ties, whereas holding outside directorships expands inter-organisational linkages that facilitate information exchange, legitimacy building, and resource flows. ESG performance thus emerges as the outcome of sustained managerial efforts to align firm strategies with the expectations of resource-controlling stakeholders. To extend resource dependence-agency theory by demonstrating how executive attributes shape the strategic deployment of ESG practices, determinants for managing external dependencies and enhancing long-term organisational resilience can be included.

Behavioural approaches to strategy emphasise that executives operate under bounded rationality, rely on heuristics, and are influenced by unobservable biases when evaluating complex and long-horizon decisions (Kang 2017). ESG investment is a particularly salient context for such mechanisms, as it involves ambiguous payoffs, delayed returns, and imperfect performance feedback. ESG performance varies consistently with top management team (TMT) characteristics, indicating that sustainability outcomes reflect behavioural regularities rather than purely rational optimisation (Martiny et al. 2024).

Incentive structures further shape behaviour by directing managerial attention, making ESG considerations more salient when they are embedded within remuneration schemes. In addition, executives with regulatory or governmental backgrounds are likely to draw on rule-based heuristics and legitimacy-oriented norms, increasing the weight accorded to compliance and stakeholder expectations in strategic deliberation. Importantly, the influence of executive characteristics on ESG performance unfolds gradually over time, which aligns with behavioural theories emphasising learning, belief updating, and the persistence of decision frames. Once sustainability strategies are initiated, managers may become increasingly committed to them as routines and expectations develop, reinforcing initial choices. From a behavioural perspective, ESG performance therefore emerges as the cumulative outcome of bounded rationality, learning processes, and bias reinforcement within the executive team, rather than as an immediate response to market signals or regulatory constraints.

The revised framework (shown in Figure 3) addresses this limitation by systematically identifying ten key demographic, functional, governance, and experiential variables—namely, team size, CEO duality, age, educational background, executive tenure, R&D functional track, remuneration, concurrent directorships, regulatory or governmental background, and gender diversity—as primary conduits through which executive characteristics influence strategic choices and organisational outcomes regarding ESG performance. This greater specificity marks an important evolution in the theory, not only enhancing conceptual clarity but also strengthening empirical tractability. By operationalising the notion of the 'upper echelon' into distinct, observable dimensions, researchers are better equipped to construct rigorous hypotheses and undertake more robust empirical tests. For instance, rather than treating the top management team as a monolithic entity, scholars can now examine how variations in team size influence strategic flexibility, decision-making speed, and risk tolerance. Similarly, the inclusion of CEO duality captures the distribution of power within the organisation's leadership structure, allowing investigation into how concentrated or dispersed authority shapes strategic direction. Age, as a demographic characteristic, brings insights into generational perspectives on innovation

and risk, with younger executives often displaying a greater proclivity for strategic experimentation, while older executives may prioritise stability and incremental change.

Educational background adds further nuance by capturing the knowledge base and analytical frameworks through which executives interpret strategic opportunities and threats. An executive team dominated by technical or engineering backgrounds, for example, may favour operational efficiency strategies, while those with business or finance degrees may lean towards market expansion or diversification. Executive tenure, on the other hand, offers a temporal perspective, with longer-serving executives potentially possessing deeper firm-specific knowledge but also facing the risk of strategic inertia, although newer executives may bring fresh perspectives but encounter steeper learning curves. The R&D functional track enriches the model by linking past professional experience to current strategic orientation, particularly around innovation, technological adoption, and product development.

Remuneration introduces a governance dimension into the Upper Echelons model, recognising that incentive structures significantly influence executive decision-making. High-powered financial incentives may encourage risk-taking behaviour aligned with shareholder value maximisation, whereas capped or politically influenced pay structures, as often seen in state-owned enterprises, might induce risk aversion and short-termism. The total number of concurrent directorships held by the executives serves as a proxy for external network embeddedness, social capital, and potential role overload, all of which can impact strategic choices, especially in relation to inter-organisational alliances and knowledge transfer. Regulatory or governmental backgrounds highlight the political embeddedness of executives, particularly in contexts where state involvement in the economy remains pronounced. Executives with political ties may facilitate favourable regulatory outcomes or state support but may also prioritise political objectives over purely economic rationality. Gender diversity captures the extent to which heterogeneous perspectives are incorporated into strategic decision-making processes, with numerous studies demonstrating that gender-diverse leadership teams tend to engage in more comprehensive risk assessments and broader strategic discussions.

Beyond enhancing the granularity of managers attributes, the revised framework systematically structures the interaction between external environmental influences, internal team characteristics, and organisational outcomes. It moves beyond a simple linear causality model to acknowledge feedback mechanisms, whereby strategic choices and organisational performance outcomes reshape the composition and dynamics of top management teams over time. Successful strategic outcomes may reinforce certain leadership traits and characteristics within the organisation, although poor performance may catalyse leadership turnover, reshaping the executive profile in subsequent strategic periods. This dynamic, recursive structure better reflects the realities of organisational evolution and strategic adaptation. The incorporation of these ten variables extends the Upper Echelons Theory beyond its original cognitive foundations to offer a more robust, institutionally contextualised understanding of corporate governance and strategic outcomes. The original model implicitly assumed a relatively stable institutional context where executives' cognitive and value systems could be seen as the principal mediators of strategic choice. However, contemporary firms operate in environments characterised by intense global competition, technological disruption, socio-political complexity, and regulatory volatility. By explicitly recognising dimensions such as political embeddedness, governance structures, and external network positions, the revised model is better suited to analyse strategic decision-making within these multifaceted environments.

This is particularly critical for research in emerging markets and politically influenced contexts, where formal institutional voids, state ownership, and political connections often play significant roles in shaping organisational behaviour (Liu et al. 2025). In such settings, traditional cognitive and psychological explanations of executive behaviour are insufficient; strategic choices must be understood within a broader framework that captures the interplay between personal attributes, institutional constraints, and external pressures. The inclusion of regulatory background and concurrent directorships, for example, provides essential tools for analysing how executives navigate environments where resource dependencies, political patronage, and market inefficiencies are endemic. Similarly, variables such as remuneration and CEO duality allow for the exploration of how internal governance arrangements mediate

strategic agency in contexts where shareholder protection and board independence may be weaker.

The modified framework also aligns with contemporary calls for multi-level and cross-theoretical integration in strategic management research, as illustrated in Figure 3. It enables the bridging of micro-level factors (such as individual executive attributes), meso-level dynamics (including team interactions and governance structures), and macro-level influences (notably institutional, political, and environmental forces). This integrative approach is essential for developing more nuanced explanations of strategic decision-making and for advancing theories that can capture the complexity of modern organisational practice. The adaptation of the Upper Echelons perspective to incorporate ten specific executive characteristics represents a significant theoretical advancement. It refines the causal pathways linking executive attributes to strategic choices and environmental, social and governance performance; enhances empirical measurability; acknowledges dynamic feedback processes; and embeds strategic agency within institutional and environmental contexts. By doing so, the expanded model not only improves the explanatory and predictive capacity of Upper Echelons Theory but also provides fertile ground for future research, particularly in underexplored contexts where political, social and economic forces converge to shape executive behaviour, governance practices and sustainability trajectories.

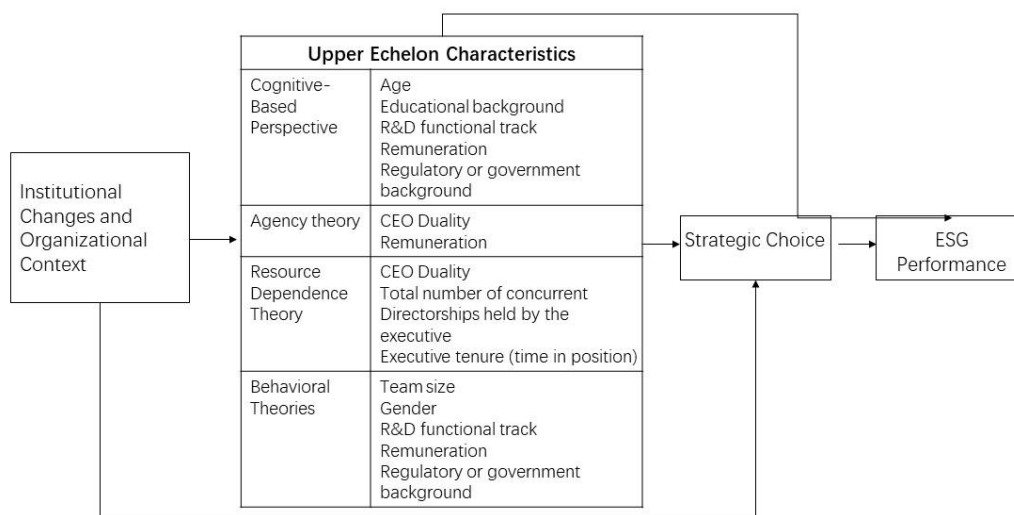


Figure 3 Modified upper echelons perspective of organizations

Source: Based on Hambrick and Mason, 1984

2.7 Summary

Chapter 2 highlights that strategic decision-making is the process through which organisations determine their long-term direction and allocate critical resources in pursuit of their objectives. In times of external change, this process operates as a mechanism that links strategic intent with concrete actions. A strategic decision-making mechanism encompasses a range of theoretical perspectives that managers apply to evaluate alternatives and select courses of action that shape the future trajectory of the firm. These mechanisms often rely on formal frameworks or models that support decision-makers in gathering information, analysing options and considering the wider strategic context before reaching conclusions. When organisations are confronted with external shocks or regulatory shifts, effective decision-making increasingly depends on the capabilities of top management teams and the use of evidence-based insights, ensuring that intuition and experience are complemented by factual analysis.

Strategic decision-making mechanisms must be both systematic and adaptive. On the one

hand, they provide a stable structure—such as scheduled strategy reviews or clearly defined evaluation criteria—that enables managers to address complex issues in a disciplined manner. On the other hand, they must remain responsive to changing conditions and emergent risks. In the ESG domain, this balance is particularly significant, as managers must simultaneously uphold long-term commitments to sustainability while adapting to evolving stakeholder demands, regulatory requirements and technological advances. In practice, this involves iterative decision-making, revisiting assumptions, and refining strategic frameworks as new information becomes available. The mechanisms thus functions as a continuous learning loop: decisions are made, outcomes are observed, and subsequent strategies are recalibrated in light of new knowledge. Such adaptability is vital during periods of transformation, enabling top management teams to realign business strategies with shifting environmental, social and governance priorities while sustaining competitive advantage.

This section summarises the key points discussed in Chapter 2, reiterating the importance of understanding strategic decision-making mechanism theories and the unique Chinese context. By identifying long-term associations between TMT characteristics and ESG outcomes, this chapter implicitly suggests that sustainability strategies are embedded in executives' cognitive commitments and learning processes. The strategic decision-making mechanisms extends the upper echelons perspective by providing a micro-level account of how managerial attributes are translated into strategic outcomes, positioning ESG performance as an observable expression of executive sense-making under uncertainty, where differences in cognition, attention allocation, and mental models systematically condition firms' capacity to pursue and sustain responsible and inclusive growth. It has emphasised that these mechanisms play a pivotal role in shaping firm performance, while also providing the conceptual foundation for the empirical analyses presented in subsequent chapters. The future analysis underscores the importance of context-sensitive research to guide both policy and managerial practice in China, particularly as firms confront heightened demands for accountability and ESG performance.

Based on the framework of upper echelons theory, Chapter 3 delves into the characteristics of top management team, focusing on key aspects such as board size, independence, diversity,

and CEO duality. Chapter 4 further contributes to the literature by investigating the Chinese context and clarify the research scope. By addressing these gaps, this thesis provides a comprehensive analysis of the top management team characteristics that influence strategic decision-making process in China. Furthermore, the findings in Chapter 5 make an important contribution to the broader field of firm performance by exploring the impact of ownership. This distinction is particularly relevant in the Chinese context, where political connections often play a significant role in business strategy and outcomes. The role of Chinese state-owned firms, and its potential implications for governance practices, represents a significant gap in the existing literature and provides valuable insights into the intersection of politics and business in emerging economies like China.

Overall, this thesis seeks to close critical gaps in the literature by offering a comprehensive assessment of how ownership structures, board characteristics and executive decision-making interact to influence strategic outcomes in Chinese firms. In doing so, it provides deeper insight into the complex interplay between corporate governance and firm performance, while highlighting the growing salience of ESG responsibilities as part of strategic management in emerging markets.

Chapter 3. Research Methodology

This chapter summarises the research design employed to investigate how top management team (TMT) characteristics shape strategic decision-making in relation to ESG performance in Chinese listed companies. The methodological framework is grounded in a positivist philosophy, combined with a realist ontological point and an objectivist epistemology. In practice, this entails treating executive attributes and strategic outcomes in relation to ESG as observable phenomena that can be measured consistently and examined through statistical inference. Theoretical engagement is pursued deductively: propositions drawn from upper echelons theory and related governance perspectives are formulated into testable hypotheses and assessed using firm-level data. In line with the growing importance of sustainability, the design also considers environmental, social and governance outcomes as integral dimensions of performance, thereby situating the analysis within broader debates on corporate responsibility and long-term value creation.

3.1 Introduction

An essential element of a strategic decision-making mechanism within a changing organisation is the role of the top management team in balancing human judgement with technological capabilities (Hambrick and Mason 1984). As the key drivers of strategic direction, the top management team is tasked with ensuring that decisions reflect the overarching vision of the organisation and its evolving operational context. Strategic frameworks led by the top management team offer a broad perspective, helping to maintain alignment with organisational goals, while variation of top management team contributes detailed analysis and forward-looking insights.

At the outset of the methodological discussion, it is important to recognise that the relationship examined in this thesis may be affected by issues of causal direction. Although the study is primarily concerned with whether top management team (TMT) characteristics influence ESG performance, the reverse relationship cannot be ruled out a priori. Firms that already perform well on ESG dimensions may be more likely to attract, retain, or promote executives with particular backgrounds, levels of experience, or governance profiles. In

other words, ESG performance may itself shape aspects of executive composition, giving rise to potential reverse causality.

Notwithstanding this possibility, the thesis proceeds on the theoretical basis that the principal direction of influence runs from TMT characteristics to ESG outcomes. This position is grounded in Upper Echelons Theory, which argues that organisational outcomes are partly a reflection of the experiences, values, and cognitive frames of senior executives, insofar as these shape how strategic issues are perceived, prioritised, and acted upon (Hambrick and Mason 1984). From this perspective, ESG performance is not treated as an antecedent condition, but as an observable outcome of strategic choices concerning investment, governance arrangements, and stakeholder management. Such choices are unlikely to be independent of those responsible for formulating and implementing them. A well-functioning top management team combines professional experience, intuitive understanding, and ethical awareness with data-informed support systems to guide effective decisions. This integration of human insight and technological input leads to more comprehensive and agile decision-making (Wiersema and Bantel 1992). The effectiveness of this mechanism rests on the top management team's ability to interpret information within a wider strategic context, ensuring that decisions remain grounded in evidence, oriented towards the future, and responsive to evolving circumstances. In the context of environmental, social and governance (ESG) performance, such capability is especially critical, as firms must simultaneously respond to shifting regulatory requirements, evolving stakeholder expectations and emerging sustainability challenges. This underscores the importance of identifying the factors that facilitate or constrain the contribution of senior executives to strategic decision-making, particularly during periods of organisational transformation.

The modelling strategy seeks to balance explanatory power with the credibility of inference. Key TMT characteristics—such as CEO duality, age composition, educational background, tenure, research and development experience, remuneration, external directorships, regulatory expertise and gender—are operationalised through transparent and replicable measurements. To mitigate simultaneity concerns, explanatory variables are lagged;

continuous measures are winsorised at conventional thresholds to limit the influence of outliers; and variables are standardised to enhance comparability of effect sizes. Given the importance of ownership difference in the Chinese context, interaction terms and sub-sample analyses are employed to distinguish between state-owned and non-state-owned enterprises.

At the same time, the thesis does not assume that the hypothesised causal ordering can simply be accepted without scrutiny. Reverse causality is treated as a substantive empirical concern rather than a purely hypothetical one. For this reason, the research design incorporates a range of strategies intended to strengthen temporal ordering and reduce endogeneity concerns, including lagged specifications, fixed-effects estimation, and additional endogeneity tests. The aim is therefore not to assert definitive causality, but to provide the most theoretically coherent and empirically credible assessment possible of whether TMT characteristics are systematically associated with subsequent ESG performance.

3.2 Research Question and Objectives

Organizations transitioning encounter a mix of enabling factors and constraints that affect their strategic decision-making processes. Enablers are conditions or resources that support and strengthen the decision-making mechanism, making it more effective and adaptive. Conversely, constraints are barriers or challenges that hinder strategic decisions or reduce their quality and impact. This section introduces the chapter's focus on exploring how various characteristics of the top management teams, such as size, composition, education and leadership structure, affect the decision on how firms perform on ESG issues. Identifying these influences is essential for understanding how an organization can successfully navigate its transformation and for pinpointing areas where the decision-making mechanisms may need reinforcement or adjustment. It underscores the pivotal role that top management teams play in strategic decision-making mechanisms, acting as intermediaries between shareholders and government. In this section, the focus is on key enablers and constraints – including technological, human, and organizational factors – and how they manifest in practice during strategic decision-making. The introduction sets the stage for an empirical investigation into the relationship between top management teams attributes and

organizational strategic decision-making process around ESG. The research questions are accordingly formulated:

- To what extent do the characteristics of top management teams influence the strategic decision-making process of Chinese listed companies concerning ESG?
- How does the characteristics within TMTs, across demographic and experiential dimensions, affect the strategic decision-making process concerning ESG?
- In what ways does firm ownership (state-owned vs. non-state-owned) moderate the relationship between TMT attributes and strategic performance in relation to ESG?

Strategic decision-making mechanisms have gained increasing attention in corporate finance research, with a growing focus on understanding how these mechanisms affect firm performance. An environment that promotes learning, open communication, and adaptability enables better strategic decisions (Bu et al. 2011). When top management teams regularly reflect on past decisions, share knowledge, and remain open to new ideas or technologies, the organization is more capable of adjusting its strategy based on what has been learned. This agility ensures that the decision-making mechanisms can evolve in response to changing conditions or insights. Strong support from top management provides clear strategic direction and encourages a culture of fact-based decision-making. In general, strategic decision-making mechanisms refer to the systems and processes through which organizations are governed, aiming to balance the interests of different stakeholders, including investors, employees, customers, and suppliers. However, much of the research on strategic decision-making tends to focus on a more specific definition, which emphasizes how shareholders ensure returns on their financial investments (Earnhart and Lizal 2010; Grossi et al. 2019; Hristov et al. 2021). This more focused perspective corresponds with the concept of strategic decision-making mechanisms in firms, which underscores the role of governance in aligning managerial behaviour with shareholder interests to maximise organisational performance. Internal mechanisms—such as the composition and dynamics of the top management team—together with external influences, including market forces and regulatory frameworks, constitute the structures through which organisations safeguard stakeholder interests and shape strategic choices. Although the primary purpose of strategic

decision-making mechanisms is not necessarily to enhance performance directly, a substantial body of research has investigated whether, and to what extent, these mechanisms influence outcomes. Increasingly, such inquiries extend beyond financial returns to consider environmental, social and governance performance, reflecting the growing expectation that firms generate sustainable value for a wide range of stakeholders.

Research on the topic of top management team generally examines the relationship between decision-making structures and firm performance in two ways: some studies evaluate overall decision-making quality using composite measures, while others investigate the specific impact of internal mechanisms and their distinct characteristics on performance outcome (Hambrick and Mason 1984; Haleblian and Finkelstein 1993; Wang et al. 2022). These frameworks ensure that important factors are systematically considered and that decisions are aligned with the overall strategy. They act as an enabler by reducing ambiguity in how to proceed, thus helping decision-makers focus on content rather than process. This chapter focuses specifically on the characteristics of top management teams, with a particular emphasis on the role of top management teams. The attributes of top management teams—such as their composition, experience, and leadership style—can profoundly influence how decisions are made, how resources are allocated, and how effectively firms adapt to changing environments. By exploring how these factors impact the strategic decisions process around ESG, this thesis enhances our understanding of strategic decision-making mechanisms.

To systematically address these questions, this thesis pursues the following objectives:

- To identify and operationalize key TMT characteristics and establish a robust metric for strategic decisions, utilizing ESG performance as a primary indicator of sustainable corporate strategy.
- To empirically examine the relationship between TMT characteristics and ESG performance within the broad context of Chinese listed firms.
- To analyse and compare the impact of these TMT attributes on ESG performance across different ownership structures, thereby identifying variations conditioned by the firm's institutional environment.

The thesis draws exclusively on publicly available information, involves no human participants, and complies with institutional guidelines on research integrity. The remainder of the chapter sets out the sample construction, variable definitions, econometric specifications and robustness checks, before presenting diagnostic tests that justify the choice of estimator and underpin the credibility of the results.

3.3 Research Philosophy

This study adopts a positivist research philosophy, which reflects a particular ontological, epistemological, and methodological orientation in the study of social and organisational phenomena. Within the framework of social science inquiry, positivism is grounded in the belief that an objective reality exists independently of individual interpretation and can be systematically investigated. This perspective is particularly valuable in the context of strategic management research, where the aim is to uncover consistent patterns and causal relationships through empirical observation and quantitative analysis. and can be objectively observed and measured. In this context, the thesis seeks to identify and explain patterns in corporate decision-making and performance by analysing observable characteristics of top management teams and quantifiable organisational outcomes. The application of positivist principles ensures that the study is anchored in systematic inquiry, logical deduction, and empirical testing.

From an ontological perspective, this research aligns with a realist context. A realist ontological position maintains that organisational dynamics and outcomes are shaped by observable, external phenomena, such as leadership structures, firm characteristics, and governance frameworks. This approach aligns with the belief that managerial characteristics and strategic actions can be objectively studied to reveal consistent effects on corporate performance. This ontological commitment underpins the assumption that organisational performance, leadership behaviours, and strategic decisions are influenced by objectively measurable attributes, such as executive age, tenure, education, and governance structure. The realist view supports the belief that top management team characteristics have real causal effects on firm outcomes and that these effects can be empirically identified through the analysis of large-scale data.

From an epistemological stance, the thesis adopts an objectivist context, which posits that knowledge is discovered rather than constructed and can be acquired through impartial observation and analysis. Objectivism underlines the importance of maintaining analytical distance and neutrality in the research process, where the investigator does not interfere with or influence the subject under study. In this context, corporate performance and strategic choices are treated as empirically observable outcomes, and the role of the researcher is to capture and analyse them using consistent and replicable methods., minimising bias and allowing the data to speak for itself. In this framework, concepts such as firm performance, strategic decision-making, and governance quality are treated as observable phenomena that can be measured using standardised indicators. The use of validated datasets and statistical models ensures the reliability and reproducibility of findings, reinforcing the objectivist principle that knowledge should be generalisable and verifiable.

For the method, this philosophical foundation leads naturally to the application of quantitative methods. The thesis employs structured data derived from reputable secondary sources, including company annual reports, financial databases (such as CSMAR), and ESG rating agencies. These data sources provide standardised and comparable information on firm-level and executive-level variables across a wide range of Chinese listed companies over an extended period. Quantitative data analysis allows the researcher to test hypotheses about the relationships between top management team characteristics and strategic decisions. The use of econometric techniques, such as panel regression, fixed-effects modelling, and robustness testing, enables the assessment of causal relationships while controlling for confounding variables and time-specific effects.

In keeping with positivist traditions, the thesis follows a deductive approach to theory testing. Based on a comprehensive literature review, a set of theoretical propositions is developed, linking specific top management team attributes—such as team size, CEO duality, gender diversity, and tenure—to strategic outcomes and performance indicators. These propositions are then tested using empirical data, with the aim of confirming, refining, or rejecting the theoretical relationships. The use of longitudinal data allows the study to capture dynamic changes in leadership composition and their influence over time, thereby enhancing the

temporal validity of the findings.

Applying a positivist paradigm to the analysis of strategic decision-making in Chinese firms provides a rigorous and replicable framework for identifying statistically significant relationships. This approach supports the production of generalisable knowledge that can inform both academic discourse and managerial practice, particularly in institutional contexts marked by structural diversity and rapid transformation. It supports the generation of generalisable insights that can inform both academic theory and managerial practice. By identifying systematic patterns in how executive traits affect strategic decisions and firm's ESG outcomes, the thesis contributes to the development of evidence-based governance and leadership frameworks. The use of large and representative datasets enhances the external validity of the findings, making them applicable to a broad range of organisations within the Chinese market. The emphasis on methodological rigour and transparency strengthens the credibility of the analysis, ensuring that results can be replicated by other researchers.

The thesis's commitment to realism, objectivism, and quantitative methods is also reflected in its treatment of causality. Realist ontology supports the idea that causal mechanisms exist independently of our ability to observe them directly, and objectivist epistemology encourages the use of inferential techniques to identify such mechanisms. The use of regression models with control variables, time and individual fixed effects, and robustness checks serves to isolate the specific influence of top management team variables on strategic outcomes. This approach is consistent with the principle of causal inference in positivist research, which aims to move beyond correlation and towards explanation and prediction. The selection of Chinese listed firms as the empirical context further reinforces the appropriateness of a positivist approach. Chinese corporate sector is characterised by a mix of ownership structures, varying degrees of state involvement, and evolving governance practices, providing a fertile ground for examining the effects of top management teams' diversity and structure. The availability of detailed firm-level data, including financial performance, board composition, and ESG reporting, allows for a robust application of quantitative methods. Furthermore, the rapid pace of institutional change in China enables the study to explore how the relationship between executive characteristics and strategic

decisions may shift in response to external pressures.

3.4 Data Analysis

3.4.1 TMT Variables and Hypotheses

Strategic decisions in organizations are profoundly shaped by the individuals who make them. Top executives bring their own experiences, values, and demographic backgrounds to the decision-making table, influencing how they interpret information and choose strategies. Prior work in strategic management has highlighted the view that organisations reflect the characteristics and orientations of their senior leaders—a perspective formalised in upper echelons theory. Several theoretical perspectives offer insight into why executive characteristics might influence strategic decisions. A central theoretical foundation is Upper Echelons Theory, originally articulated by Hambrick and Mason (1984). This perspective argues that organisational outcomes—encompassing both strategic choices and performance—can be understood and, to some extent, predicted from the demographic and cognitive characteristics of senior executives. The rationale is that senior executives interpret situations through the lens of their personal experiences, values, and cognitive frames, which are reflected in observable attributes like age, education, and career track. In other words, executives make strategic choices not in a vacuum of pure rationality but filtered through a “perceptual screen” formed by their demographic and psychological profile. This theory provides a unifying framework for examining the most variables in this study, since each variable can shape the executives’ perceptions and preferences. For example, an executive’s age might affect their risk tolerance, while their functional experience (such as an R&D background) might bias them toward certain types of innovations. Upper echelons theory also emphasizes considering the top management team as a whole, noting that the diversity or heterogeneity of characteristics within the team can be as important as individual traits. In addition to upper echelons theory, other perspectives are relevant for specific variables (Taglialatela et al. 2024).

This thesis examines ten key executive attributes and investigates how each is associated with strategic decision-making in relation to ESG. The goal is to provide a comprehensive, analysis of these factors, drawing on established theories and empirical findings. The ten main variables are: (1) team size, (2) CEO duality, (3) age, (4) educational background, (5) executive tenure (time in position), (6) R&D functional track, (7) remuneration, (8) total number of concurrent directorships held by the executive, (9) regulatory or government background, and (10) gender. By analysing each in turn, I elucidate how the composition and characteristics of the top management team can drive or constrain strategic choices in relation to ESG performance. Given the mixed findings and competing theoretical perspectives within the existing literature, top management team characteristics may plausibly exert either positive or negative effects on ESG performance. Accordingly, the hypotheses are intentionally formulated in non-directional terms, allowing the empirical analysis to determine the nature and direction of the relationships observed.

Team Size

The size of the executive team is the first factor considered. Top management team size can influence the breadth and depth of information processing in strategic decisions. Empirical studies offer inconclusive evidence regarding the effect of top management team size on strategic decision-making mechanisms. Some studies indicate a negative relationship, where larger teams face challenges in coordination and communication, leading to slower decision-making. Others find a positive relationship, highlighting the benefits of diverse perspectives and expertise in enhancing decision quality.

Larger teams potentially bring more diverse expertise and viewpoints, which can enhance problem-solving for complex strategic issues. Halebian and Finkelstein (1993) reported that organisations with larger top management teams generally achieved superior performance, particularly in contexts that afford executives substantial discretion in shaping strategic direction. A big team means more collective knowledge and resources to draw upon, supporting higher-quality decision-making in dynamic or uncertain scenarios. Resource dependence theory posits that larger teams bring a broader range of ideas and information, potentially enhancing decision-making efficiency. The diversity within larger teams can

provide valuable resources and external connections, facilitating more comprehensive strategic decisions. The impact of team size on strategic effectiveness has been extensively studied in management and innovation literature. Bantel and Jackson (1989) observed that larger top management teams in the banking industry were positively linked to increased innovation, suggesting that the larger resource pool and greater diversity of perspectives in such teams enhance their capacity to generate and implement strategic decisions. Wu, Wang, and Evans (2019) explored the role of team size in scientific and technological development, finding that larger teams tend to contribute to significant, incremental advancements. Consistent with this, studies have noted positive correlations between team size and outcomes like firm growth, as additional members contribute to a firm's ability to identify and exploit opportunities.

However, these benefits come with potential downsides. Some studies offer a contrasting view, finding a positive relationship between team size and strategic decision-making mechanisms. As a team grows in number, coordination and communication become more challenging. Early organizational behaviour research observed that very large groups suffer from reduced cohesion and take longer to reach consensus. Smaller executive teams, while having fewer total ideas on the table, may be more tight-knit and decisive, which can be advantageous when strategic problems are straightforward or time-sensitive. Yermack (1996) conducted a study on 452 large US firms from 1984 to 1991, revealing a significant negative impact of team size on strategic decision-making mechanisms. Similarly, Gordon et al. (2012) examined the relationship between team size and strategic decision-making mechanisms using a sample of listed companies from Canadian firms. They identified a significant negative association between team size and strategic decision-making in the United Kingdom, the Netherlands and Denmark, while finding no comparable effect in France or Italy. Agency theory suggests that larger teams may encounter challenges such as the free-rider effect, where some members rely on others to fulfil responsibilities, leading to decreased efficiency and hindered decision-making. Additionally, increased team size can complicate communication, resulting in delays in decision-making.

In summary, the size of a company's top management team significantly influences its

strategic decision-making processes. There is a trade-off: a larger executive group equips the firm with a richer pool of knowledge to tackle complex strategic decisions, but an overly large team might bog down the decision process through bureaucratic delays or internal conflict. Companies must consider the complexity of their environment when determining the optimal team size for effective strategic decision-making. The relationship between team size and strategic decision-making mechanisms is complex, with both advantages and disadvantages associated with larger teams. While increased size can introduce challenges such as coordination difficulties and slower decision-making processes, it can also offer a diverse range of perspectives and expertise, potentially enhancing decision quality. Therefore, organizations must carefully consider the optimal team size to balance the benefits of diverse expertise with the need for effective and timely decision-making.

Hypothesis 1: Team size has an impact on ESG performance.

CEO Duality

CEO duality—where a single individual occupies both the Chief Executive Officer and Board Chair positions—is frequently regarded as a structural vulnerability within corporate governance arrangements. Agency theorists argue that this leadership arrangement can erode the independence of the board, making it less effective in monitoring and challenging executive actions (Javed et al. 2024). The core concern lies in the concentration of authority, which may reduce accountability and weaken the strategic oversight essential for sound decision-making. By holding both roles, the CEO may exert disproportionate influence deliberations, thereby limiting the board’s ability to provide objective guidance or scrutiny. This can lead to managerial entrenchment, in which strategic decisions reflect the interests or risk preferences of the executive rather than those of the shareholders or the organisation more broadly. From Agency Theory, CEO duality poses a threat to the integrity of strategic decision-making mechanisms. It can result in decisions being made without sufficient challenge or alternative perspectives, diminishing the quality of strategic choices, and increasing the risk of inefficiencies or misalignment with long-term objectives. While empirical studies have offered mixed conclusions, a significant body of research supports the agency theory view, suggesting that organisations with separated leadership roles—

where the CEO and the board chair are distinct—tend to demonstrate more effective strategic decision-making processes. Thus, under the lens of agency theory, CEO duality is seen as a governance structure that can constrain the board's ability to act in the best interests of stakeholders, ultimately impairing the organisation's strategic agility and accountability.

Resource Dependence Theory emphasises how executives with extensive external networks, such as those sitting on multiple boards or having connections with government bodies, can leverage these relationships to access critical resources and information, which can significantly influence the strategic options available to the firm (Boyd 1995). Unlike Agency Theory, which views CEO duality as a potential concentration of power that could lead to self-interest, Resource Dependence Theory posits that this dual leadership structure enables the CEO to make decisive and unified strategic decisions that benefit the organisation. By holding both roles, the CEO can drive strategic moves without the delays that may arise from conflicting interests between the CEO and the chairperson. This combined leadership can enhance decision-making efficiency, allowing the organisation to seize opportunities swiftly and align efforts behind a single, coherent vision. Resource dependence theory suggests that the dual role is seen as empowering and facilitating effective leadership, thereby improving strategic decision-making. The logic is that when one person has ultimate responsibility, they can act decisively and align the organization quickly behind strategic moves. On the other hand, governance scholars raise concerns that concentrating too much power in one individual can reduce oversight and increase the risk of self-serving decisions. In this context, CEO duality is considered a resource-enhancing structure, particularly when external relationships and a single authoritative leadership figure can bring valuable resources into the organization (Ramdani and Witteloostuijn 2010). While concerns about reduced oversight and the potential for self-interest remain, Resource Dependence Theory suggests that when the CEO also serves as the chairman, their focus is on safeguarding and growing the company's assets, rather than exploiting them for personal gain. This structure can provide a solid foundation for executing bold strategies, especially in fast-moving industries where speed and clear direction are crucial. Empirical evidence on CEO duality remains mixed, with some studies showing negative effects on performance,

while others highlight the advantages of CEO duality in facilitating strategic decision-making (Yu 2023). Factors such as the organisation's size, industry dynamics, and external environment may all influence whether the dual leadership model is beneficial. In conclusion, CEO duality, from a Resource Dependence perspective, can positively influence strategic decision-making by streamlining authority and enabling faster, more effective alignment of the organisation's resources and strategic goals.

Whether the positions of Board Chair and Chief Executive Officer are combined in the same individual—a governance arrangement commonly termed CEO duality—carries important implications for strategic leadership and the functioning of decision-making mechanisms. From the perspective of Agency Theory, CEO duality is typically viewed with caution, as it concentrates power in a single individual, which could undermine the independence of the board and reduce effective oversight. However, some proponents argue that this concentration of authority can streamline decision-making and establish clearer leadership, thereby reducing potential conflicts at the top and fostering more coherent strategy formulation. In this sense, CEO duality may create a more efficient decision-making process under certain conditions, as the single leader is able to act with decisiveness and speed, aligning the organisation quickly behind strategic initiatives. On the other hand, Resource Dependence Theory posits that CEO duality can lead to positive outcomes by facilitating access to crucial external resources. A CEO who also chairs the board can better coordinate with external stakeholders, leveraging relationships and securing necessary support, which can significantly enhance the firm's strategic options. This dual role, therefore, is seen as an advantage, enabling the CEO to more effectively align resources and direct the firm's efforts towards strategic goals, especially in industries that require rapid and unified action. Both Agency Theory and Resource Dependence Theory offer useful perspectives on CEO duality, suggesting that its impact on strategic decision-making mechanisms depends on the context. For firms with weak decision-making processes or struggling with performance, CEO duality may provide more coherent and decisive leadership. Conversely, for firms with strong decision-making capabilities, separating the roles of CEO and chairman may help to preserve governance quality and improve oversight. The optimal leadership structure,

therefore, is contingent on the firm's existing performance and strategic context, indicating that both CEO duality and role separation can be beneficial depending on the specific circumstances of the organisation.

Hypothesis 2: CEO duality has an impact on ESG performance.

Age

The age demographic of top management team is frequently studied for its influence on strategic behaviour (Bantel 1989). Age is often interpreted not just as a demographic characteristic but as a reflection of deeper cognitive and experiential attributes that shape how senior leaders perceive opportunities, respond to risk, and engage with organisational change. Within the framework of Upper Echelons Theory, the personal characteristics of senior leaders, including their age, are thought to influence how they interpret their environment and, in turn, the strategic decisions they make on behalf of the organisation. The board of directors plays a pivotal role in achieving such a balance. When appointing new managers, boards should consider how age-related tendencies align with the organisation's current strategic needs. For instance, a company seeking to reposition itself in a disruptive market may benefit from the energy and boldness of a younger chief executive. Conversely, a firm in need of stabilisation or careful restructuring may be better served by an older, more experienced leader with a track record of consistent performance. Recognising these contrasting tendencies, there is growing appreciation for the value of age diversity within senior management teams. A mix of younger and older managers can enable an organisation to benefit from a wider range of perspectives. Younger managers may push for innovation and long-term transformation, while older managers provide a steadying influence, ensuring that strategic choices are grounded in realism and informed by past lessons. This interplay can foster richer discussion, more balanced decision-making, and ultimately, more resilient strategy formation.

Age frequently serves as a proxy for psychological traits such as openness to innovation, risk tolerance, and the length of planning horizons. Younger executives are often found to pursue more drastic or innovative strategic actions compared to their older counterparts.

Younger management teams have been linked to higher propensity for strategic change and greater investments in R&D and innovation. Empirical research has consistently observed that top management teams with a younger age profile are more inclined to engage in bold strategic changes (Plecnik and Wang 2024). For instance, leadership teams led by younger chief executives are often associated with greater investment in research and development, faster adoption of new technologies, and increased willingness to pursue international expansion or diversification. Conversely, as senior leaders age, their attitude towards risk and change tends to shift. Older executives often become more cautious in their approach, preferring stability and the preservation of existing achievements. This change in orientation can be linked to a number of factors, including a greater awareness of career end points, a desire to safeguard personal legacies, and the cognitive effects associated with ageing. With shorter timeframes until retirement, older executives may prioritise immediate and tangible outcomes over long-term, high-risk investments. This phenomenon is often described in the literature as the career horizon effect, whereby the impending conclusion of an executive's tenure influences their preference for strategic conservatism. Nevertheless, it is important not to overlook the value of experience that typically accompanies age. Older executives bring with them a wealth of industry-specific knowledge, seasoned judgement, and insight drawn from years of navigating complex organisational and market environments (Tanikawa and Jung 2005). This accumulated wisdom can be particularly advantageous during times of uncertainty or crisis, where historical perspective and cautious deliberation can help the firm avoid hasty or ill-informed decisions. Furthermore, experienced leaders often have deep networks and stakeholder relationships, which can be leveraged to support strategic implementation or reduce external resistance to change. However, this very experience can also become a constraint, particularly if it leads to strategic inertia – the reluctance to deviate from historically successful strategies even when environmental conditions demand change (Luksyte et al. 2022). In fast-moving sectors, where agility and innovation are paramount, the tendency of older executives to rely on past templates may prevent the organisation from adapting effectively. Consequently, while experience is undoubtedly an asset, it must be balanced with openness to new ideas and approaches. Effective top management team will consider age diversity in the top team to balance energetic innovation with experienced

judgment.

Hypothesis 3: Executive age has an impact on ESG performance.

Educational Background

The educational attainment of executives is another key variable that can affect strategic decision-making. Education is widely seen as an indicator of an individual's cognitive skills, knowledge base, and problem-solving capacity. Higher levels of formal education are associated with a greater ability to process complex information and to deal creatively with organizational challenges (Jaggia and Thosar 2021). Education is often used as a proxy for a manager's analytical ability, exposure to abstract reasoning, and overall cognitive complexity. It influences not only how decisions are made but also the type of strategies considered viable by those in positions of power. Higher levels of academic achievement are typically associated with enhanced capabilities in handling complexity and ambiguity. Executives who have undergone advanced formal education—particularly those holding postgraduate qualifications in fields such as business, economics, law, or engineering—are generally thought to possess greater conceptual understanding and problem-solving capacity. Their exposure to theoretical frameworks and structured decision-making processes equips them to analyse complex strategic problems and weigh multiple alternatives effectively. Higher education remains a powerful asset. Leaders with substantial academic grounding tend to be more receptive to evidence-based decision-making, more proficient in analysing data, and better equipped to interpret global market signals. In sectors characterised by rapid technological advancement or intense international competition, such capabilities can make the difference between reactive and proactive strategy.

In strategic contexts characterised by uncertainty and change, these capabilities become particularly valuable. Leaders with postgraduate degrees are often better prepared to make decisions in volatile settings where complete information may not be available, and the outcomes of strategic choices remain uncertain. Their training often fosters a higher tolerance for ambiguity, enabling them to remain confident and action-oriented despite complexity. Empirical studies support the notion that education positively correlates with

strategic dynamism and innovation (King et al. 2016; Tang et al. 2024). Organisations led by well-educated top teams tend to be more inclined towards strategic renewal. This may include launching new business models, entering untapped markets, or investing in long-term R&D projects. Top management teams with higher levels of educational attainment are more likely to introduce novel strategic alternatives. These findings suggest that education enhances an executive's ability to consider a broader range of options and to develop creative responses to strategic issues. Education alone is not sufficient to ensure sound decision-making. Academic qualifications must be complemented by other forms of competence, including professional experience, interpersonal skills, and contextual judgement. A highly educated leader who lacks practical insight or emotional intelligence may struggle to build coalitions or navigate internal politics, both of which are essential in executing strategic plans. Equally, individuals with limited formal education may bring invaluable industry-specific knowledge and tacit understanding of customer or regulatory environments, especially in sectors where intuition and personal relationships are key. Educational profile of top management team significantly influences how they approach strategic decision-making. Advanced formal education tends to enhance analytical skills, risk tolerance, and receptiveness to change—traits that are particularly valuable in dynamic and uncertain environments. While education is not the only determinant of strategic decision, it does serve as a foundational component of a leader's cognitive framework and decision-making style. Organisations that understand and leverage this relationship can position themselves for more thoughtful, informed, and forward-looking strategic choices. Cultivating a well-educated and intellectually diverse leadership team is a prudent step for any organisation seeking long-term growth and resilience.

However, executives possessing higher levels or stronger quality of education may exhibit greater confidence in their analytical ability and strategic judgement, which can influence corporate decision-making in both positive and negative ways. Although highly educated CEOs are frequently associated with superior knowledge, broader perspectives, and stronger strategic capability, excessive confidence in personal expertise may also contribute to over-optimistic assessments and greater willingness to undertake risky decisions (Helmi et al.

2026). In some cases, this may result in strategic choices characterised by excessive risk-taking or lower-quality decision-making, particularly where executive power is concentrated and internal monitoring mechanisms are weak.

Hypothesis 4: Educational background of executives has an impact on ESG performance.

Executive Tenure (Time in Position)

Tenure can influence how attached leaders are to existing strategies and the sustainable development of firms (Zhou et al. 2025). Drawing upon Upper Echelons Theory, which links the characteristics of top executives to organisational outcomes, tenure is understood not only as a marker of seniority but also as a determinant of strategic mindset, risk orientation, and openness to change. It is often observed that long-serving managers tend to favour continuity over radical change (Finkelstein and Hambrick 1990). Over the years, senior managers accumulate deep firm-specific knowledge, build strong internal networks, and become closely aligned with existing organisational practices. While this embeddedness can offer valuable insights and operational stability, it can also foster a strong preference for maintaining the status quo. Executives with extensive tenure may become heavily invested—both emotionally and politically—in strategies they have championed, making them less receptive to proposals that deviate from established norms. However, longer tenure should not be viewed purely as a liability. Experienced managers frequently possess in-depth knowledge of the organisation’s capabilities, stakeholder relationships, and sector-specific dynamics. This familiarity can enhance the realism and precision of strategic planning, as well as facilitate more effective implementation. Managers who have been in place for an extended period may also have established trust and credibility across the organisation, enabling them to mobilise resources and align support more effectively than newly appointed counterparts. As such, the tenure of a manager plays a vital role in shaping how strategic issues are interpreted and addressed.

The optimal scenario may lie somewhere in the middle. Managers in the mid-range of tenure—those who have been in role long enough to understand the organisation but are not yet overly entrenched—may offer the best of both worlds (Luo et al. 2014). Such managers

are typically well-acquainted with internal strengths and weaknesses but retain sufficient distance from legacy strategies to consider alternative approaches. Their decision-making tends to be both informed and adaptable, balancing continuity with a measured openness to innovation. At the top management team level, the diversity of tenure across members can also influence strategic outcomes. A top management team comprised entirely of long-serving individuals may lean towards incremental adjustments rather than substantial transformation. Conversely, a team dominated by recent appointees might lack the historical context or internal relationships needed for nuanced, feasible strategy-making (Weng and Lin 2014). A mix of tenures can encourage richer discussions, as more experienced leaders provide grounding and context, while newer members introduce fresh thinking and challenge outdated assumptions. This blend of perspectives can be especially valuable during periods of strategic uncertainty or organisational change. The implications of executive tenure extend to areas such as succession planning and leadership development. Organisations benefit from approaching leadership transitions with a view toward injecting new perspectives at appropriate intervals, without destabilising the institutional memory and operational expertise that long-serving managers provide. In practical terms, this might involve staggered appointments to senior positions, internal secondments, or external recruitment that introduces diversity of thought and experience.

In summary, managers' tenure is a variable that significantly influences how strategic decisions are conceived and executed. Long-tenured managers often provide continuity, institutional knowledge, and stability, which are valuable assets during steady-state operations. However, they may also resist major strategic shifts, particularly if such changes threaten established practices or personal legacies. By contrast, shorter-tenured managers bring new energy and a willingness to challenge convention, though they may lack the deeper organisational insights needed for seamless execution. Organisations stand to gain by carefully managing the composition of tenure within their top management teams. A balanced mix of experience and new thinking allows for both strategic continuity and innovative capacity. Boards and senior leadership should recognise tenure as more than a time-based measure—it is a strategic factor that shapes risk appetite, adaptability, and the

overall orientation of the organisation. When considered alongside other demographic and psychological traits, managers' tenure offers valuable insight into how firms can align leadership composition with their strategic ambitions.

Hypothesis 5: Executive tenure (time in position) has an impact on ESG performance.

R&D Functional Track

The career pathway is regarded as a subset of the broader concept of functional background, a key dimension in Upper Echelons Theory, which posits that leaders' career histories shape their cognitive frameworks, preferences, and ultimately, the strategies they promote. The professional background of executives, particularly in fields such as R&D, engineering, or product development, leaves a lasting imprint on the manner in which they approach strategic decision-making. The extent to which senior executives have experience in research and development (R&D) or other innovation-oriented roles is a significant determinant of strategic behaviour. Managers who have spent a considerable part of their careers in R&D typically adopt an output-oriented functional perspective. Unlike those whose professional experience lies in finance, operations, or administration—often described as throughput functions—managers from R&D backgrounds tend to focus more heavily on innovation, product introduction, and technological advancement. They often place less emphasis on efficiency-driven metrics and operational control. The study by Barker and Mueller (2002) provides empirical support for this distinction, finding that chief executives from output-focused functions, such as marketing and R&D, were significantly more likely to prioritise investment in R&D and drive organisational growth through innovation, whereas their counterparts from throughput functions placed greater emphasis on cost efficiency and administrative processes. R&D experience often cultivates a strategic mindset that is oriented towards exploration and innovation. Managers who have worked extensively in innovation-driven roles are more likely to advocate for long-term investments in emerging technologies, even where outcomes are uncertain, and timelines are extended. Their familiarity with iterative development processes and environments where experimentation and risk-taking are necessary means they often show greater tolerance for ambiguity and failure. As a result, organisations led by R&D-experienced managers are frequently more

willing to pursue high-risk, high-reward strategies, including venturing into nascent markets, investing in unproven technologies, or committing substantial resources to exploratory research.

Beyond strategic choices, managers with a background in R&D also tend to shape the culture of the top management team (Guo et al. 2019). They are often champions of continuous improvement, fostering an environment that encourages creativity, learning, and cross-functional collaboration. Leaders with R&D roots may advocate for initiatives such as the establishment of internal innovation hubs, partnerships with universities and research institutions, or the formation of agile project teams tasked with developing new products. Under their influence, innovation becomes embedded in the strategic agenda and the firm's identity. The strategic emphasis introduced by R&D-trained managers often permeates the language and priorities of leadership discussions. Key terms such as "innovation pipelines," "disruptive technology," "breakthrough products," and "competitive advantage through R&D" may feature more prominently in strategic dialogue. Investment portfolios may also shift towards a higher proportion of resources allocated to research projects, development initiatives, and early-stage product exploration, with success metrics increasingly reflecting innovation outcomes, such as patents, prototype development, or technological milestones.

Moreover, managers from innovation-intensive backgrounds often promote organisational cultures that embrace experimentation and tolerate failure (Bataineh et al. 2024). They may support decentralised decision-making, flatter organisational structures, and environments where calculated risk-taking is encouraged. While such cultures are conducive to rapid innovation, they may also require careful oversight to prevent strategic drift or the inefficient use of resources. Clear accountability structures and disciplined strategic planning processes remain essential, even within highly creative organisational settings. Managers who have spent significant time in output-oriented roles are more inclined to pursue innovation-led growth, invest in future technologies, and accept the risks associated with long-term strategic bets. They are often instrumental in positioning their organisations at the cutting edge of technological change. By recognising the distinctive contributions of R&D-experienced managers and integrating them thoughtfully within a broader strategic decision-making

process framework, firms can better navigate the complex challenges of a dynamic global marketplace.

However, in China, related research has identified potentially negative effects on broader sustainability-oriented outcomes. Ren et al. (2026) find that top management teams with stronger R&D functional backgrounds are negatively associated with corporate social responsibility (CSR) performance among Chinese listed family firms. The authors suggest that executives with strong innovation-oriented or technical backgrounds may place greater emphasis on technological development and competitive performance, while allocating comparatively less attention to wider social and environmental responsibilities. This finding implies that a strong R&D orientation may, under certain conditions, reduce managerial focus on broader sustainability objectives.

Hypothesis 6: R&D functional track of executives has an impact on ESG performance.

Remuneration

This section focuses on the remuneration of top management teams. Given the centrality of directors in influencing and overseeing strategic direction, understanding how financial incentives might impact their behaviour is critical (Jensen and Murphy 1990). Within the sphere of executive compensation research, the focus has historically been directed primarily towards the pay of chief executive officers (CEOs). CEO remuneration is often scrutinised for its alignment with shareholder interests, risk incentives, and its broader implications for corporate governance. In contrast, director compensation—particularly that of non-executive and independent directors—has traditionally received less attention, especially in relation to its potential influence on strategic decision-making mechanisms.

However, directors hold an essential role in supervising management, shaping strategic choices, and safeguarding effective governance structures. One contributing factor is the cultural norms that often prevail within boards of directors (Aaen and Lueg 2022). It is widely recognised that board environments can emphasise politeness, collegiality, and deference to executive management, often at the expense of open, critical dialogue. In such cultures,

directors may be reluctant to question or challenge the proposals presented by senior executives. Excessive remuneration packages might erode the objectivity and independence of directors, potentially compromising the quality of strategic decision-making within organisations. Critics began to question whether lavish director pay discouraged critical scrutiny of management and fostered a culture of complacency within boardrooms. There is a growing argument that high levels of director remuneration can further inhibit effective oversight. Substantial compensation may create an implicit expectation of loyalty or reinforce directors' reluctance to disrupt board harmony by challenging executive decisions. Directors who are handsomely rewarded may, consciously or otherwise, be less willing to offer constructive criticism or oppose management initiatives, particularly where their financial interests are tied to continued board service. As a result, the independence and robustness of strategic decision-making processes may be weakened. Empirical research examining the relationship between director pay and strategic decision-making effectiveness has produced inconsistent findings (Steinbach et al. 2017). Some studies suggest a positive relationship, proposing that higher remuneration encourages directors to engage more seriously with their oversight duties. Well-paid directors may feel a greater sense of accountability and may invest more time and energy into strategic deliberations, recognising the expectations attached to their compensation.

Another dimension to consider is the structure of director remuneration. In many mature markets, particularly in the United States and parts of Europe, stock-based compensation is common, aiming to align the interests of directors with those of shareholders by tying rewards to share price performance. However, within the Chinese corporate landscape, stock-based remuneration for directors remains relatively rare. Consequently, this section focuses primarily on cash-based and fixed remuneration forms, as they are more prevalent in the available data. The Chinese market presents a particularly interesting context for examining these issues. Governance structures in China often differ markedly from those in Western economies, with closer relationships between directors and senior management, frequent ties to government entities, and varying standards of independence. In such an environment, the impact of director remuneration on strategic decision-making may be

influenced by unique political, social, and institutional factors. This context increases the importance of examining director incentives critically, as weak governance mechanisms can have significant implications for organisational performance and strategic integrity.

By concentrating on the relationship between director remuneration and strategic decision-making within Chinese-listed firms, this section seeks to contribute to a deeper understanding of how financial incentives at the board level shape governance behaviour and influence strategic outcomes. This focus is particularly relevant given China's evolving corporate governance frameworks and the growing international interest in the functioning of Chinese capital markets. Given the ambiguous nature of existing research, further investigation is essential. Future studies could benefit from examining not only the amount but also the design of director compensation packages, including the role of performance-linked incentives, tenure-related rewards, and penalties for governance failures. Additionally, research should consider the moderating effects of board diversity, independent director representation, regulatory oversight, and firm-specific governance practices. In conclusion, while CEO compensation continues to dominate much of the debate around executive pay and corporate governance, there is an urgent need to recognise the strategic importance of the remuneration of top management team. Managers are vital to the functioning of corporate governance systems and to ensuring that strategic decisions are subjected to robust, independent scrutiny. Whether high levels of director compensation enhance or hinder these functions remains an open question, influenced by complex interactions between incentive structures, organisational culture, and external governance frameworks. Addressing these questions is critical for improving the quality of strategic oversight and ensuring that boards fulfil their responsibilities effectively in promoting sustainable, responsible corporate success.

Hypothesis 7: Executive remuneration has an impact on ESG performance.

Total Number of Concurrent Directorships Held by the Executives

It is common for senior managers to extend their influence beyond their own organisations by serving as directors or advisers to other companies. This practice introduces important

considerations for corporate governance and strategic decision-making. Two variables are typically used to capture this phenomenon: whether a manager receives remuneration from another listed firm, and the number of concurrent directorships they hold. These indicators provide insight into the breadth of an executive's external network and the extent to which their professional attention may be divided. From one perspective, serving on multiple boards can be highly advantageous (Ferris et al. 2003). Such roles expose executives to diverse industries, governance practices, and strategic models, broadening their strategic perspective. Through external board service, executives can acquire insights into emerging industry trends, innovation strategies, and alternative approaches to leadership and problem-solving.

Drawing upon Resource Dependence Theory, board interlocks are often viewed as valuable mechanisms for the transfer of information, knowledge, and resources between organisations. Consequently, directors with multiple external appointments can act as conduits of strategic intelligence, enhancing their primary firm's competitive positioning. This access to broader knowledge is especially valuable in dynamic and uncertain markets, where exposure to diverse practices may enhance strategic agility. Younger or smaller firms, in particular, can benefit from having directors who possess wide-ranging board experience. Such directors can lend credibility to the firm, attract investment, and help guide growth strategies, drawing upon lessons learned from other sectors and enterprises. In this sense, external directorships can be seen as a strategic asset, enabling executives to enrich their own organisation's decision-making processes. However, these benefits must be weighed against significant potential drawbacks. A growing body of research points to the so-called "busy director" phenomenon, where individuals holding numerous board appointments may be unable to devote sufficient time and energy to each role. Strategic decision-making, risk oversight, and executive monitoring demand considerable attention and engagement. If directors are overburdened, the depth and quality of their contributions to strategic discussions are likely to suffer.

Member of top management team drawing income from another listed company usually indicates a position on that firm's board, often as an independent non-executive director.

Similarly, the number of external directorships reflects how many companies the executive is simultaneously engaged with. For managers directly involved in shaping organisational strategy, the implications are clear. On the positive side, those who serve on external boards may bring fresh perspectives, strategic insights, and innovative ideas to their primary firm. Exposure to different industries and challenges can stimulate creativity, encourage cross-sector learning, and broaden the strategic horizons of the executive team.

However, the risk of distraction is also real. An executive who is spread too thinly across multiple appointments may fail to engage fully with the strategic issues facing their own organisation. This divided focus could lead to missed opportunities, slower strategic responses, or inadequate oversight of key initiatives. As strategic decision-making often hinges on detailed attention to emerging challenges and opportunities, any dilution of focus can have serious consequences. These measures illustrate not only the strength of a member's external connections but also the potential risk of overcommitment. Empirical findings regarding the impact of external directorships on firm performance have been mixed. Some studies report that firms with directors holding multiple appointments tend to experience weaker governance outcomes and reduced performance (Jiraporn et al. 2008). These studies suggest that busy directors may be less effective in challenging management, scrutinising strategic initiatives, and holding executives accountable. In such cases, overcommitted directors could fail to identify emerging strategic risks or may inadequately supervise important corporate decisions. Organisations characterised by boards with high proportions of busy directors have been found to demonstrate slower responses to poor performance and reduced likelihood of replacing underperforming CEOs. This evidence suggests that excessive external commitments can undermine the very oversight functions that boards are intended to perform.

Additionally, there are concerns that directors who are stretched across multiple companies may still command high levels of remuneration despite contributing less effectively to each board. However, not all result points to negative outcomes. Some studies find no significant adverse effect of multiple directorships on firm performance, implying that highly skilled and experienced directors may be capable of managing multiple roles successfully (Fich and

Shivdasani 2006). In these instances, external appointments can even strengthen an executive's ability to contribute strategically, provided they can balance their various responsibilities effectively. External board service can be both a strategic advantage and a governance risk. Members of the top management team who bring broader perspectives and networks can enhance strategic decision-making, but excessive outside involvement may impair focus, responsiveness, and accountability. Corporate governance frameworks must therefore strike a careful balance, ensuring that external appointments serve to strengthen—rather than weaken—the effectiveness of strategic decision-making process within the firm.

Hypothesis 8: The total number of concurrent directorships held by the executive has an impact on ESG performance.

Regulatory or Government Background

The ninth variable under consideration examines whether the member of top management team has previously held a position within regulatory authorities or government institutions, either before or alongside their corporate career. Experience of this kind is increasingly recognised as having a significant influence on strategic decision-making, particularly in sectors where government policy and regulation have a substantial impact on business operations (Liu et al. 2023). A manager's exposure to the workings of government can notably shape the opportunities and constraints that an organisation faces when developing its strategic direction. From a strategic standpoint, managers with political or regulatory experience are frequently able to leverage their connections to gain favourable access to government resources, such as public funding, contracts, or permits. Their familiarity with bureaucratic processes can also help firms navigate complex regulatory landscapes more efficiently. These advantages are particularly valuable in sectors like infrastructure, energy, finance, and telecommunications, where close government engagement is often a prerequisite for success.

Studies investigating firms led by politically connected executives, particularly in China and other transitional economies, consistently find evidence supporting the strategic benefits of political ties (Ding et al. 2014). Companies managed by individuals with government

backgrounds tend to achieve higher financial returns, better access to credit, and reduced regulatory barriers. Such firms are often better positioned to benefit from public policy incentives, secure advantageous procurement opportunities, and align their strategic initiatives with governmental development goals. Managers with backgrounds in governmental bodies, regulatory agencies, or state-linked organisations typically bring with them a comprehensive understanding of policymaking processes, legal frameworks, and compliance obligations. Moreover, they often maintain informal networks that bridge the worlds of politics and business, providing privileged access to key policymakers, administrators, and regulators. In many emerging economies and regulated industries, these networks—frequently referred to as political capital—are considered valuable strategic assets that can enhance a firm’s competitive position. Regulatory experience may also enhance a firm’s strategic risk management capabilities. Managers with such backgrounds often possess greater foresight into emerging regulatory trends, are adept at interpreting complex legal frameworks, and can engage more effectively with governmental stakeholders. As such, they can assist organisations in adapting swiftly to policy changes and mitigating compliance-related risks, thereby strengthening the firm’s long-term resilience.

However, the presence of political or regulatory experience within the senior management team is not without potential downsides. One notable concern is that strategic decisions may be unduly influenced by the executive’s political connections rather than being solely driven by shareholder value considerations (Sun and Zou 2021). In such cases, strategies may prioritise maintaining political alliances or securing benefits for associated parties, potentially at the expense of financial performance and market competitiveness. Moreover, over-reliance on political ties can expose firms to significant vulnerability. Political landscapes are often volatile; changes in leadership, policy direction, or regulatory focus can swiftly erode the value of previously advantageous connections. Recent anti-corruption campaigns, particularly those witnessed in China, have illustrated how ties that once provided firms with strategic benefits can become liabilities almost overnight, leading to reputational damage, regulatory scrutiny, or legal penalties. Another risk is that executives coming from bureaucratic or governmental environments may exhibit a more formalistic and

cautious decision-making style. Such an approach may favour procedural correctness and consensus-building over entrepreneurial agility and rapid innovation. While this can be an asset in highly regulated sectors, it may hinder firms operating in dynamic, fast-paced markets where adaptability and speed are critical for competitive success.

Despite these challenges, most studies in developing markets indicate that the net effect of political and regulatory experience is generally positive. Firms led by such executives often enjoy better access to external financing, encounter fewer bureaucratic obstacles, and even demonstrate a higher likelihood of receiving governmental support in times of financial difficulty. These advantages can be crucial for strategies involving significant capital expenditure, navigating complex compliance frameworks, or engaging in markets that demand close alignment with government policy. The strategic implications of political and regulatory experience depend heavily on the firm's sector, geographic location, and strategic aspirations. In industries where government influence is significant—such as construction, defence, healthcare, and public utilities—the ability to engage effectively with state actors is a critical success factor. In these settings, managers with governmental experience can provide unique strategic advantages, enabling smoother negotiation of regulatory approvals, facilitating strategic partnerships, and reducing uncertainty in project delivery. Managers with political and regulatory backgrounds have the potential to profoundly influence strategic decision-making. Their knowledge of policy environments, regulatory processes, and governmental networks can provide firms with significant strategic advantages, particularly in regulated industries or emerging markets.

However, these advantages must be balanced against the risks associated with political dependency, reputational exposure, and potential misalignment with shareholder interests. Firms would be wise to integrate politically experienced managers carefully, ensuring that their networks and insights are harnessed to support the firm's strategic goals while maintaining robust governance mechanisms to mitigate associated risks. Ultimately, when managed effectively, political and regulatory experience within the senior leadership team can serve as a powerful enabler of strategic flexibility, regulatory foresight, and competitive advantage.

Hypothesis 9: Regulatory or government background of executives has an impact on ESG performance.

Gender

In recent years, gender diversity has garnered considerable attention from both researchers and practitioners, who seek to better understand how a greater presence of women in leadership roles influences organisational strategy and overall performance (Opstrup and Villadsen 2015). One area where gender diversity appears particularly influential is in the promotion of corporate social responsibility (CSR). Research findings indicate that organisations with higher female representation at senior levels tend to demonstrate stronger CSR practices. Women managers often prioritise stakeholder engagement, ethical behaviour, and long-term reputational considerations more highly than their male counterparts. Consequently, firms led by gender-diverse executive teams are frequently more proactive in adopting sustainability initiatives, ethical supply chain practices, and community development projects, aligning themselves more closely with growing societal expectations around corporate accountability.

Risk management is another domain where the presence of women at executive level appears to influence strategic outcomes. Traditional views have suggested that female managers tend to be more risk-averse than their male peers, favouring more measured and cautious strategic approaches. Empirical studies provide support for this, demonstrating that female-led firms are, on average, less likely to engage in highly leveraged financial structures or pursue extremely high-risk investment strategies, particularly in volatile or uncertain environments (Huang and Kisgen 2015). Nevertheless, more recent research has challenged the universality of this characterization (Sun and Zou 2021). Studies increasingly indicate that context matters: in some sectors or corporate cultures, female managers may in fact embrace higher levels of strategic risk, particularly where doing so aligns with competitive norms or where women in leadership positions seek to counter traditional stereotypes.

Additionally, women who have successfully reached senior executive roles often exhibit traits of resilience, adaptability, and entrepreneurialism, having navigated significant barriers

within historically male-dominated industries. An expanding body of research indicates that leadership teams with greater gender diversity tend to approach strategic decision-making in ways that differ from those of all-male teams (Wong 2023). Numerous studies have highlighted that women in top management team positions contribute distinct perspectives, experiences, and leadership approaches that can significantly shape not only the strategic choices firms make, but also the processes by which those choices are formulated. Gender diversity, therefore, should not be viewed solely through the lens of social equity; it carries important implications for the quality and orientation of strategic governance. Top management teams with higher gender diversity typically demonstrate “broader and deeper considerations of strategic choices,” ultimately leading to better-informed and more balanced strategic decisions.

Gender diversity does not guarantee better performance or superior strategic outcomes. The benefits arise not simply from numerical representation but from the effective integration of diverse perspectives into meaningful strategic dialogue and decision-making processes (Martín-Zamora et al. 2025). Organisational culture, leadership style, and governance structures all play critical roles in determining whether the advantages of diversity are fully realised. Gender diversity among top management team positively influences strategic decision-making by introducing varied leadership styles, cognitive perspectives, and ethical considerations. Women managers often contribute to a leadership culture that values stakeholder engagement, long-term value creation, and thoughtful risk management. This approach can complement more traditional risk-taking behaviours, leading to strategies that are both innovative and responsibly managed. Beyond the board, gender diversity within leadership also plays a role in shaping an organisation’s external image and stakeholder relationships.

Furthermore, women managers may bring insights that enable firms to better understand and serve diverse customer bases. Particularly in consumer-facing industries, having decision-makers who reflect the diversity of the market can lead to more nuanced product development, marketing strategies, and customer engagement efforts. This commercial advantage complements the broader ethical rationale for promoting gender diversity within

leadership structures. Insights from organisational behaviour and ethics suggest that diverse top management teams foster cultures that are more collaborative, inclusive, and attuned to social responsibilities. Integrating women into senior leadership roles broadens the cognitive and ethical frameworks applied to strategic decision-making, thereby helping organisations navigate increasingly complex and dynamic business environments.

Moreover, gender diversity within leadership can enhance a firm's capacity to respond to regulatory pressures, particularly as governments and regulators worldwide place increasing emphasis on equality and inclusivity. Importantly, mixed-gender leadership teams are consistently associated with more rigorous and reflective strategic deliberations, enhancing the overall quality and resilience of organisational strategies (Martín-Zamora et al. 2015). As firms increasingly operate within complex and socially conscious environments, the strategic importance of inclusive leadership has become ever clearer. Achieving greater gender diversity within top management team should therefore be viewed not merely as a moral imperative but as a strategic necessity. Organisations that succeed in integrating diverse leadership perspectives are likely to enjoy enhanced adaptability, improved stakeholder trust, and stronger long-term performance. As the global business landscape continues to evolve, the ability to harness the full potential of gender-diverse leadership teams will be critical for sustainable strategic success.

Hypothesis 10: Gender of executives has an impact on ESG performance.

3.4.2 Data Collection

This thesis makes use of a longitudinal dataset based on publicly listed Chinese firms, selected with the objective of analysing how top management teams shape corporate ESG performance. The period under examination, from 2009 to 2023, is characterised by increased regulatory sophistication and greater alignment with international standards. The panel nature of the top management teams' data facilitates the observation of evolving top management team dynamics, providing a solid empirical foundation for evaluating their impact on firm-level outcomes over time. Rather than offering a generic overview, the dataset enables a context-specific exploration into how variations in ownership—

particularly within China's unique institutional framework—contribute to differences in ESG performance. The sample also draws from all companies listed on China's three primary stock exchanges: the Shanghai Stock Exchange, the Shenzhen Stock Exchange, and the more recently launched Beijing Stock Exchange. The Shanghai Stock Exchange and Shenzhen Stock Exchange predominantly feature large and medium-sized enterprises, many of which are state-owned, while the Beijing Stock Exchange specialises in smaller, high-growth firms, particularly in emerging and technology-driven sectors.

Both financial and non-financial entities are represented in the dataset. This comprehensive coverage not only captures a diverse range of industries and firms but also allows for the exploration of regionally and institutionally specific ownership structures and governance practices, which are particularly salient in understanding the complexities of China's evolving corporate system. Ownership is measured by categorising firms as state-owned (value 1) or non-state-owned (value 0). Data for the ownership variables is collected from official corporate registration information. To ensure the validity of the findings, observations with incomplete or inconsistent information regarding ownership or financial metrics are excluded. The resulting dataset offers a detailed basis for analysing how variations in ownership structure influence firm performance within China's unique institutional framework, where both market mechanisms and government oversight play significant roles.

Table 1 Summary statistics for Chinese listed companies

Variable	N	Mean	SD	Min	Max
Ownership	45536	0.360	0.480	0	1
Financial leverage (debt ratio)	45536	45.4%	1.167	0.2%	17833.6%
R&D intensity	45536	4.1%	0.630	-39.2%	13264.5%
Profit Margin	45536	-0.3%	13.048	-	40863.1%
				263796.1	%
Ratio of independent directors	45536	37.1%	0.083	0.0%	100%
Board size	45536	8.932	3.084	0	36

Lost and extreme 31,669 observation values were deleted.

In terms of performance measurement, the dataset (shown in Table 1) captures several financial indicators that serve as proxies for firm success and value creation. These include size, profitability, and other organization performance measures, which together provide a balanced view of both accounting-based and market-based performance. By triangulating across multiple performance indicators, the study can better assess whether different ownership types and governance structures lead to superior firm outcomes. Several control variables are included to account for firm-specific and governance-related factors that may confound the relationship between ownership and performance. Financial leverage is calculated using the debt-to-assets ratio, providing insight into capital structure and risk-taking behaviour. R&D intensity—typically calculated as research and development expenditure relative to operating revenue—is incorporated to capture a firm’s strategic commitment to innovation and the development of long-term capabilities. Typically,

operating revenue appears as a positive figure because it reflects income generated from a firm's main activities. However, in certain cases it may turn negative if items such as returns, discounts, or allowances outweigh the reported gross sales during a given period. Profit margin is further proxied through the ratio of operating profit divided by operating revenue, offering an additional accounting-based measure of efficiency. The ratio of independent directors is an important corporate governance indicator and refers to the share of a company's board composed of members who are independent—meaning they are non-executive, not part of management, and free from control by major shareholders. Board size denotes the total number of directors sitting both on a company's board and top management teams, frequently examined for its influence on decision-making efficiency, oversight effectiveness, and overall firm performance.

Given China's national strategy to advance the great rejuvenation of the Chinese nation on all fronts, ownership variable helps explore whether ownership structures affect a firm's ESG performance. In line with this, the dataset includes firm-level data on capital expenditure and asset tangibility, which are useful for analysing investment behaviour and resource allocation. These variables provide insight into monitoring quality and decision-making dynamics. These governance variables are of particular interest when evaluating the impact of ownership structures, as concentrated ownership may reduce the effectiveness of board oversight, while dispersed ownership may necessitate stronger governance mechanisms to align managerial interests.

The raw dataset initially includes over 70,000 firm-year observations. However, due to incomplete reporting of certain variables—particularly in the early years or among smaller firms—data cleaning was required to eliminate inconsistencies and ensure analytic integrity. Observations with missing values for critical variables such as ownership type, performance indicators, or governance structure were excluded. After the data cleaning process, the final sample consists of 45,536 complete firm-year observations. Although this represents a reduction from the initial raw data, it still offers sufficient statistical power for robust analysis, especially given the diversity of firm types included. The longitudinal nature of the dataset enables dynamic panel analysis, capturing how changes in ownership, governance

structures, or financial health influence firm performance over time. This temporal depth is particularly valuable in China's transitional economic context, where regulatory reforms, capital market liberalisation, and policy-driven industrial shifts have occurred at varying paces. By capturing firms' responses across multiple years, the dataset supports causal inference and mitigates concerns related to short-term shocks or one-off events. The dataset provides a comprehensive and meticulously curated foundation for examining the relationship between ownership and firm performance in China. It combines breadth—by including a wide range of firms across industries and ownership types—with depth—by integrating detailed financial, governance, and executive-level variables. This allows for a contextually grounded and empirically rigorous assessment of how corporate ownership structures interact with performance outcomes in a complex and evolving institutional environment.

3.4.3 Data Description

The data advances the existing body of literature on TMT characteristics within the distinctive institutional environment of Chinese listed firms. Grounded primarily in Resource Dependence Theory, Agency Theory and Behavioural Theories from Cognitive-Based Perspective, several hypotheses are developed and empirically tested across three interrelated chapters. The analysis focuses on the performance implications of internal governance structures, specifically investigating ten critical characteristics of top management teams (TMTs): team size, CEO duality, executive age, educational background, executive tenure, R&D functional experience, remuneration, the total number of concurrent directorships held by the executives, regulatory or governmental background, and gender diversity. Although a considerable body of research has explored governance mechanisms and strategic decision-making in developed economies, there remains a notable deficiency in studies addressing these dynamics within emerging markets, particularly China. Existing literature often concentrates on broader governance structures such as ownership concentration and board independence, while comparatively little attention is given to the nuanced influence of executive-level attributes on strategic outcomes. Furthermore, empirical findings regarding the relationship between TMT characteristics and strategic

decision-making have been mixed and highly dependent on contextual factors, signalling the need for more detailed and context-specific analysis.

The initial data sample for this thesis comprises all publicly listed companies, encompassing both financial and non-financial firms, across China's principal stock exchanges. These exchanges include the Shanghai Stock Exchange, the Shenzhen Stock Exchange, and the more recently established Beijing Stock Exchange, which has been expanding its focus on smaller-scale and innovation-oriented enterprises. To assemble a comprehensive dataset, all firms listed on these exchanges were initially included, generating a total of 5,147 firms and 45,536 firm-year observations covering the period from 2009 to 2023, which means 31,669 observations were lost because if one variable value is missing the whole observation cannot be used in regression. This timeframe permits an extensive longitudinal analysis, enabling the examination of how firm-level governance structures and top management team attributes have evolved during a period of substantial economic reform and regulatory change in China. To build this dataset, variables were sourced from publicly accessible annual reports, firm disclosures filed with the China Securities Regulatory Commission, and official company websites. Particular care was taken to ensure consistency in variable definitions across time and across firms, especially for top management team attributes such as age, tenure, academic qualifications, previous government service, and gender. Where feasible, cross-verification using corporate official websites was conducted to minimise the risk of data misclassification or inconsistencies. This dataset provides the empirical basis for testing the central theoretical propositions outlined in this thesis. It supports an in-depth exploration of how specific top management characteristics influence corporate ESG rates, with a particular emphasis on environmental disclosure practices and their relationship to overall firm performance. The scale and comprehensiveness of the sample, combined with the reliability of the data and the precision of the variable construction, contribute to a rigorous and context-sensitive analysis of ESG performance within the Chinese listed company landscape.

Table 2 Descriptive statistics of top management team characteristics

Variable Name	N	Mean	SD	Min	Max
Team size	45536	6.760	3.441	1	45
CEO Duality	45536	0.017	0.131	0	1
Age	45536	49.296	3.423	34.455	70
Educational background	45536	2.672	1.247	0	7
Executive tenure (time in position)	45536	6.760	2.193	1	15
R&D functional track	45536	21.7%	0.214	0.0%	100%
Remuneration	45536	17.1%	0.116	0.0%	100%
Total number of concurrent directorships held by the executive	45536	0.930	1.023	0	21.389
Regulatory or government background	45536	0.609	0.336	0	6
Gender	45536	1.092	1.191	0	13

Lost and extreme values were deleted.

In terms of top management teams (TMT) characteristics, the dataset (shown in Table 2) records ten key TMT attributes that capture team structure, human capital, incentives, outward linkages and diversity. Team size is calculated using the integer headcount of executives in the TMT for each firm-year, recorded at the financial year-end. CEO duality is measured by a binary indicator equal to 1 when the chief executive also serves as board chair during the year, and 0 otherwise. Age is measured in years; for team-level analyses we use the mean of the TMT. Educational background shows the highest qualification on an ordered

scale (below bachelor's, bachelor's, master's/MBA, doctorate), summarised at team level. Executive tenure offers a measure of the number of years since appointment to the current role, resetting upon any substantive change of organization. R&D functional track identifies whether an executive's primary career experience is in research and development using binary indicator, engineering or technology management, aggregated as the team share with such backgrounds and then is divided by the total number of top management team members. Remuneration is calculated as the total of TMT member salaries excluding equity compensation (cash plus equity where available), divided by the total number of top management team members. The total number of concurrent directorships held by the executive is represented by the count of outside board seats an executive holds simultaneously, reported at team level as the mean. Regulatory/government background is calculated as a binary flag for prior service in ministries, regulators, state supervisory bodies or the military, summarised as the team share. Gender is coded 1 as female and 0 as male at the individual level and expressed as the sum of female executives for team-level analyses. By examining each variable in sequence, we show how the make-up of the TMT—encompassing structural features (team size, CEO duality), human capital (age, education, tenure, R&D background), incentives (remuneration), external governance ties (concurrent directorships, government or regulatory experience) and diversity (gender)—conditions the channels through which ownership and governance shape corporate strategy and performance. By cross-referencing these dimensions, the study can more precisely judge whether different ownership forms and governance designs are associated with distinctive strategic choices and firm outcomes. The ten variables offer a rounded picture of who leads the firm, how they are structured and motivated, and the external connections they maintain.

By integrating these ten executive characteristics into a comprehensive analytical framework, this research addresses critical gaps in the existing scholarship. It extends the understanding of how internal governance mechanisms influence strategic outcomes in emerging market settings. Methodologically, the study applies rigorous econometric techniques to address potential endogeneity, enhancing the robustness of the findings. Furthermore, by analysing a large and representative sample of publicly listed Chinese firms over an extended period,

the research offers results with greater empirical generalisability than many previous studies. In doing so, this thesis enriches theoretical perspectives on the micro-foundations of strategic decision-making mechanisms while providing practical insights for policymakers, investors, and corporate practitioners seeking to optimise governance structures within emerging economies. The findings are expected to contribute meaningfully to the fields of strategic management and corporate governance by offering a nuanced understanding of the role of executive characteristics in shaping organisational outcomes within China's distinctive institutional environment.

3.4.4 Environmental, Social, and Governance data in China

Environmental, Social, and Governance (ESG) practices in China have become increasingly central to corporate strategy, regulatory frameworks, and scholarly discourse, particularly in the context of the nation's broader ambitions concerning sustainable development and the globalisation of its markets. Over the past decade, ESG integration has evolved from a peripheral consideration into a key dimension of corporate reporting and investment decision-making. This progression reflects the heightened awareness among policymakers, institutional investors, and corporate leaders of the reputational, financial, and regulatory risks associated with unsustainable business practices. Although ESG disclosure in China remains largely voluntary at present, there are clear signs of a gradual shift towards more structured requirements, enhanced transparency, and improved accountability. The Chinese ESG regulatory landscape has advanced notably in recent years. The China Securities Regulatory Commission (CSRC), as the country's principal financial oversight body, has introduced a range of policies to encourage listed entities to publish ESG-related information. In 2022, the CSRC revised its environmental disclosure requirements and signalled its intention to move towards closer alignment with international reporting frameworks, including the Task Force on Climate-related Financial Disclosures. In tandem, the Shanghai and Shenzhen Stock Exchanges have each developed ESG reporting templates and issued voluntary guidelines on sustainability disclosure. These efforts form part of a wider initiative to construct a domestic ESG reporting regime that is both globally comparable and locally appropriate. Consequently, the number of companies issuing ESG or Corporate Social

Responsibility (CSR) reports has risen significantly, with state-owned enterprises leading this trend.

Among the three ESG dimensions, environmental disclosure has received the most robust regulatory attention, in line with national objectives such as the “Dual Carbon” policy—aimed at peaking carbon emissions before 2030 and achieving carbon neutrality by 2060. The Ministry of Ecology and Environment has issued mandates for environmental disclosures in high-emission sectors and has begun constructing a nationwide carbon trading system to price emissions and incentivise cleaner industrial practices. These regulatory developments have placed new demands on companies, particularly those in energy-intensive and heavily polluting industries, requiring them to report on emissions data, develop credible transition strategies, and invest in low-carbon technologies. In response, many firms have upgraded their environmental data management and sustainability governance practices. The social and governance aspects of ESG have seen comparatively slower progress and exhibit considerable variation across companies and industries (Tagliatalata et al. 2024). Social indicators such as employee welfare, stakeholder engagement, and labour practices throughout the supply chain are often either absent or presented in vague terms. While certain larger firms have adopted international best practices in areas such as occupational health and safety, smaller enterprises frequently face resource and capability constraints that hinder meaningful social reporting. Corporate governance reforms have been more pronounced, with new regulations introduced to strengthen board independence, enhance anti-corruption measures, and improve internal controls. However, persistent issues remain in areas such as gender diversity on boards, shareholder protection, and the influence of controlling shareholders, particularly within family-owned firms and local SOEs.

Institutional investors have played a growing role in fostering ESG adoption in China. The Asset Management Association of China has encouraged asset managers to consider ESG factors in their investment strategies, and several domestic fund managers have introduced ESG-themed investment products. International investors, particularly those operating under the United Nations Principles for Responsible Investment, have increasingly called for more

consistent and reliable ESG disclosures. This mounting pressure has pushed listed companies to enhance their ESG transparency in anticipation of tighter regulatory scrutiny and to remain attractive to global investors. ESG benchmark indices have emerged to provide market signals and assist investors in identifying top-performing ESG firms. State-owned enterprises tend to demonstrate closer alignment with national ESG priorities, reflecting their stronger ties to government oversight and central policy directives. These firms are often among the first to adopt ESG reporting and to participate in public sustainability initiatives. However, their compliance is frequently motivated by regulatory expectation rather than intrinsic commitment to ESG principles. By contrast, private and foreign-invested enterprises may adopt ESG frameworks to attract international capital or to meet the expectations of global supply chains and business partners. This dual-track development results in a fragmented ESG landscape, where practices differ markedly by firm type, ownership structure, sector, and geographic region.

Despite notable progress, several structural challenges continue to hinder the mainstreaming of ESG in China. A primary concern is the inconsistent quality and comparability of ESG disclosures across firms. ESG scores evaluate a firm's sustainability practices through three core dimensions—environmental, social, and governance—each comprising a structured set of indicators. The sources of ESG scores are important for the future evaluation. According to Shen et al. (2023), the review identifies a dual system of ESG measurement in China: international agencies such as MSCI, FTSE Russell and Refinitiv, and domestic rating institutions such as the China Securities Index (CSI), SynTao Green Finance, Huazheng, and Rankins. These entities rely on several core data sources, including (i) corporate sustainability and financial reports, (ii) official filings and regulatory disclosures, (iii) media analysis and controversy tracking, and (iv) model-based estimations to fill data gaps, particularly for Scope 3 emissions.

Environmental, Social, and Governance (ESG) performance data in China originate from a range of both domestic and international providers, each employing distinct methodologies and offering varying levels of coverage, detail, and transparency. Data of numeric ESG score can be seen in Table 3 from different sources. These variations in data generation and

processing raise important considerations for both academic research and practical application.

One of the leading domestic sources is the Sino-Securities Index Information Service (Shanghai) Co. Ltd, which offers an ESG evaluation system specifically aligned with China's regulatory framework and disclosure practices. Its methodology incorporates a scoring system that evaluates firms across environmental, social, and governance dimensions, drawing largely from publicly available company reports and official regulatory submissions. Given its local focus, Sino-Securities is particularly suited to identifying governance structures and regulatory compliance features that may be overlooked by international data providers. ESG data from Sino-Securities Index Information Service (Shanghai) Co. Ltd record 22,206 firm-year observations for 2009–2023, the broadest coverage of the three sources. On Sino-Securities' ordinal 1–8 scale, the mean of 4.241 sits close to the mid-range, and the cross-sectional standard deviation of 1.042 indicates scores cluster within roughly one point of the average. The observed minimum and maximum (1 and 8) show that the full scale is used. Collectively, these figures imply wide market coverage with a relatively coarse metric that separates issuers into broad bands rather than fine gradations.

On the global stage, data aggregators such as Bloomberg, MSCI, and Refinitiv also provide ESG metrics for Chinese firms. These entities typically apply standardised global frameworks that facilitate cross-border comparison and portfolio screening for institutional investors. Bloomberg, for instance, uses a uniform set of indicators to score companies worldwide, allowing for relative benchmarking across diverse markets. Its approach incorporates both disclosure quality and performance metrics, thereby differentiating firms that engage in basic ESG reporting from those that demonstrate substantive progress in their sustainability practices. However, the universal nature of these indicators may result in the underrepresentation or misinterpretation of ESG efforts tailored to China's specific institutional context. The Bloomberg ESG data contain 14,253 firm-year observations on a continuous, decimal-reported scale, yielding an average ESG score of 30.19 with a standard deviation of 10.18. The range from 6.198 to 78.411 signals substantial dispersion and fine

granularity, consistent with a methodology capable of differentiating firms more precisely than categorical systems. As the numerical scale differs from domestic providers, direct level comparisons are inappropriate without prior normalisation (e.g., z-scores or min–max rescaling).

Another widely utilised source is the China Stock Market & Accounting Research (CSMAR) database, which compiles detailed financial and corporate governance data for Chinese listed companies. While it does not offer ESG scores directly, it contains extensive firm-level disclosures that enable the construction of customised ESG indices and support empirical research into ESG-related themes. CSMAR includes longitudinal data on board composition, executive characteristics, shareholder structures, and environmental policies disclosed in company filings. Its structured and reliable data have made it a preferred source in academic studies exploring the linkage between ESG performance and corporate outcomes. The dataset of CSMAR comprises 9,207 firm–year observations scored on a 1–9 scale. The mean of 6.575 lies above the midpoint, while the standard deviation of 1.001 denotes moderate cross-sectional variation, broadly comparable—relative to scale—to Sino-Securities. Minimum and maximum values of 1 and 9 confirm use of the full range.

Table 3 Environmental, social, and governance data sources in China from 2009 to 2023

Variable Sources	N	Mean	SD	Min	Max
Sino-Securities (Huazheng)	22206	4.241	1.042	1	8
Bloomberg	14253	30.19	10.18	6.198	78.413
China Stock Market Accounting Research	9207	6.575	1.001	1	9

Each of these ESG data sources varies in scope, frequency of updates, standardisation procedures, and the transparency of their scoring algorithms. Consequently, a single firm may be evaluated differently by Sino-Securities, Bloomberg, or CSMAR depending on the selection and weighting of variables, the treatment of missing data, and the emphasis placed

on different ESG dimensions. For example, state-owned enterprises may achieve higher ESG scores in Sino-Securities assessments due to their alignment with domestic policy priorities, while their scores under Bloomberg's governance criteria might be lower because of concerns related to concentrated ownership and limited board independence. Such discrepancies highlight the importance of exercising discretion when comparing ESG assessments across sources, particularly in emerging markets like China where reporting practices are still developing. To address these variations, scholars and practitioners increasingly employ triangulation methods, drawing on multiple sources to verify ESG ratings and evaluate consistency. When a firm is rated as an ESG leader by one agency but receives a lower score from another, further scrutiny of its underlying disclosures, stakeholder engagements, and compliance history becomes essential. Some researchers construct their own ESG indices using raw data from sources such as CSMAR, applying scoring frameworks that integrate both global norms and locally relevant indicators. This mixed-methods approach allows for more nuanced and contextually appropriate ESG analyses that retain international comparability.

The fragmentation of ESG data in China reflects broader systemic challenges in the country's corporate sustainability reporting. Although the number of companies producing ESG or CSR reports has increased substantially—especially among large firms and state-owned enterprises—there remains considerable variability in the depth and consistency of the disclosed information. Many reports rely heavily on qualitative narratives, lack verifiable data, and are seldom subjected to external assurance. Additionally, social and governance indicators are often described in vague or generic terms, limiting their utility in measuring actual commitment or impact. These inconsistencies pose difficulties for data providers seeking to evaluate firms using standardised methodologies.

The evolution of Chinese ESG disclosure has occurred in three overlapping stages (Shen et al. 2023). The first stage involved voluntary reporting inspired by international frameworks such as the Global Reporting Initiative (GRI). The second phase began with the 2016 Guidelines for Establishing the Green Financial System issued by the People's Bank of China and related authorities, which encouraged the integration of ESG factors into financial

and corporate reporting. The third, and current, stage reflects the national “dual carbon” strategy, which aims for peak carbon emissions before 2030 and carbon neutrality by 2060. Regulation has progressively formalised disclosure practices through the China Securities Regulatory Commission (CSRC) and Hong Kong Stock Exchange (HKEX), where ESG reporting has shifted from voluntary to mandatory requirements. This regulatory maturation has increased both the quantity of disclosures and the degree of third-party assurance. For consistency, this thesis mainly adopts ESG measurement from international agencies. Efforts are currently underway to strengthen China’s ESG reporting infrastructure. The China Securities Regulatory Commission (CSRC) is in the process of updating its disclosure guidelines to achieve closer alignment with international standards, including frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD). Pilot schemes have been launched by CSRC to test new ESG reporting formats, and the stock exchanges in Shanghai and Shenzhen have issued updated reporting templates to encourage voluntary disclosures. These initiatives are expected to improve the completeness and reliability of ESG data across firms, sectors, and regions. The selection of ESG data sources must be aligned with the goals of the analysis. For cross-national comparisons and investment benchmarking, internationally recognised datasets such as Bloomberg offer the most appropriate indicators for the consistency compared to China’s domestic providers. For policy evaluations or studies that require deeper insight into Chinese unique governance arrangements, Sino-Securities provides greater contextual detail. For empirical modelling and in-depth firm-level analysis, the CSMAR database remains indispensable due to its extensive and validated financial and governance metrics. Ideally, ESG-related research databases should clearly identify the sources used, justify their selection in light of the research objectives, and discuss any inherent limitations or biases.

In summary, ESG data in China emerge from a complex interplay of domestic regulations, international expectations, and methodological divergence across rating agencies. The coexistence of local and global data sources provides a wealth of information, albeit with notable inconsistencies that demand careful navigation. As China advances its ESG disclosure framework and as data providers refine their evaluation methodologies, it is

anticipated that convergence in ESG assessments will gradually improve. In the interim, employing multiple data sources and maintaining methodological transparency remain essential strategies for producing robust, meaningful, and context-aware evaluations of ESG performance in the Chinese corporate landscape. ESG development in China is undergoing a transition from a fragmented and largely voluntary model to one that is more standardised, comprehensive, and regulated. While environmental reporting has advanced due to policy emphasis on carbon reduction, further progress is required in the social and governance dimensions to ensure balanced and credible ESG practices. Variability in disclosure standards, differences in rating methodologies, and disparities across firm types highlight the ongoing challenges. Nonetheless, the trajectory is clear: ESG considerations are becoming embedded in China's corporate governance and capital market systems. As this evolution continues, the ability of firms, investors, and regulators to engage meaningfully with ESG will be instrumental in shaping a more sustainable and resilient economic future.

3.4.5 Data Application

Corporate governance structures in China demonstrate notable institutional divergences from those observed in Western economies, particularly in leadership roles and executive tenure dynamics. The practice of CEO duality—wherein the chief executive concurrently holds the position of board chair—is markedly more common in Chinese firms, especially within state-controlled entities (Peng et al. 2010). This reflects a cultural inclination towards centralised authority structures, which align with hierarchical decision-making frameworks prevalent in sectors such as state-owned enterprises. Conversely, in Western corporate governance frameworks, particularly in Europe, corporate governance codes typically enforce a clear separation between executive and oversight roles to institutionalise checks on managerial power. Divergences in executive tenure further underscore these institutional contrasts (Kato and Long 2006). While members of Chinese top management team, exhibit relatively shorter tenures averaging six to seven years, their Western counterparts frequently remain in post for a decade or longer, benefiting from stable operational environments that emphasise strategic continuity. This duality of concentrated authority and evolving tenure patterns epitomises China's transitional governance landscape, where traditional centralised

control coexists with market-driven reforms reshaping leadership dynamics.

Comparative analysis reveals distinct patterns in executive leadership configurations between Chinese and Western enterprises. Chinese corporate governance demonstrates a condensed senior leadership structure, typically comprising 6-7 principal decision-makers (shown in Table 2), prioritizing operational efficiency through concentrated authority. The structural divergence corresponds with career chronology variations: Chinese professionals generally attain leadership between 45-55 years of age, indicative of accelerated promotion trajectories within domestic market ecosystems (Wei et al. 2005). Conversely, Western counterparts exhibit extended career maturation cycles, with chief executives in developed economies averaging 57-62 years at appointment, reflecting established norms of sequential competency accumulation through diversified functional exposures. These structural and demographic distinctions reflect broader institutional contrasts – China's emphasis on agile hierarchical coordination versus Western corporate models favouring distributed strategic specialization – while maintaining equivalent governance efficacy within respective market paradigms.

In China, numerous executives, particularly within the manufacturing and state-owned sectors, traditionally boast backgrounds in engineering or technical disciplines (Meng et al. 2019). Nevertheless, a pronounced transition towards business-centric education evident is among the emerging generation of executives. Conversely, in Western nations, specifically the US and Europe, executives frequently display a wider array of educational experiences. A considerable number hold advanced business qualifications, such as MBAs from distinguished universities, with this pattern being especially prominent in sectors like finance, technology, and consulting. In China, executives with postgraduate qualifications are not as prevalent, whereas in Western enterprises, it is more common to find executives with higher degrees (Masters, MBAs, or PhDs). The proportion of Chinese executives with R&D experience is comparatively modest, which mirrors the reality that many senior Chinese leaders, particularly in state - owned enterprises, emerge from managerial or political spheres. Although private Chinese firms in industries such as technology or biotechnology are placing greater emphasis on R&D experience, executives with such backgrounds are still

less common in Chinese enterprises when compared to their international peers. By contrast, in Western businesses, especially within the tech sector, R&D experience is frequently held in high regard, and numerous CEOs in innovative industries hail from scientific or technical fields.

Executive remuneration and others top management team characteristics present distinct patterns in Chinese firms when compared to their Western counterparts (Cao et al. 2011). In China, particularly within state-owned enterprises, executive pay is generally lower and less tightly aligned with firm performance. Although CEO compensation is influenced by accounting measures such as return on assets and return on equity, political considerations and alignment with governmental objectives often play a more decisive role in determining remuneration, especially within state-owned enterprises. Conversely, in Western economies such as the United States and Europe, executive compensation tends to be considerably higher and is more explicitly linked to performance outcomes, often involving substantial incentive components such as share options, performance bonuses, and extensive benefits packages. Gender diversity within Chinese top management teams also remains limited, with women occupying fewer than 20 per cent of senior leadership roles.

Moreover, a clear gender pay gap persists, with female CEOs earning significantly less than their male peers even after controlling for firm characteristics. In contrast, gender diversity has become a prominent concern in Western firms, supported by diversity initiatives and regulatory measures, including board quotas, that have gradually improved female representation at executive levels. Additionally, Chinese firms, particularly state-owned enterprises, commonly appoint managers with prior experience in government or regulatory bodies, reflecting the continued importance of political networks in corporate governance and strategic decision-making. In Western corporations, while some senior managers may have regulatory experience, it is far less typical; most leadership appointments originate from private sector backgrounds in finance, consultancy, or operational management, indicating a corporate environment that is generally less politically influenced. These differences highlight the unique institutional and political frameworks shaping executive leadership and remuneration practices in China.

In quantitative research, particularly within corporate governance contexts, managing the influence of extreme values is crucial to maintaining the accuracy and stability of statistical analysis. Outliers—data points that significantly diverge from the overall distribution—can disproportionately affect estimation results, potentially distorting regression coefficients and inflating error terms. In this study, extreme values were addressed by trimming or winsorising the upper and lower one per cent of continuous variables, including financial indicators and top management team characteristics. This method, frequently employed in empirical corporate research, helps to reduce the impact of data irregularities or reporting anomalies without discarding a substantial portion of the sample. The selection of thresholds for outlier treatment was guided by visual distribution checks and winsorisation cut-offs to ensure methodological consistency. Removing extreme observations by trimming or winsorising the upper and lower one per cent allows the analysis to better represent the central tendency of firm behaviour and enhances the reliability of the findings. To uphold transparency and replicability, outlier handling procedures were clearly defined and consistently applied across the dataset (ESG data, 10 independent variables and 5 control variables).

Standardising all variables is an essential component of quantitative analysis, particularly when dealing with variables that differ in scale or unit of measurement. It facilitates meaningful comparison across diverse indicators and enhances the clarity of coefficient interpretation within statistical models. This approach mitigates scale imbalances that could otherwise distort regression estimates or complicate the interpretation of interaction effects. Standardisation is especially useful when incorporating variables into models that rely on distance metrics or when assessing the relative contribution of predictors. The use of z-scores ensures that all variables contribute proportionately to the model, regardless of their original units. The standardisation process followed consistent procedures across the dataset and was guided by established research practice, thereby reinforcing the methodological robustness of the analysis.

3.5 Reliability and Validity

Maintaining research reliability and validity is essential for ensuring the trustworthiness of

empirical data. Reliability pertains to the degree of consistency with which a measurement approach yields results across time or repeated applications. Validity, by contrast, refers to the extent to which a research tool or design accurately reflects the concept it is intended to measure. This incorporates content validity, which examines the extent to which the measurement instrument captures all relevant facets of the construct; construct validity, which assesses the degree of correspondence between theoretical expectations and the empirical indicators employed; and external validity, which concerns the extent to which the results can be generalised beyond the specific sample studied. In the context of this research, reliability was enhanced through the use of reputable and standardised secondary data sources, uniform data processing methods, and verification of variable definitions. Validity was supported by drawing on established theoretical models, ensuring coherence between the conceptual framework and variable selection, and undertaking sensitivity analyses to confirm the consistency of the results. These methodological practices collectively contribute to the robustness and credibility of the research outcomes.

Validity and reliability are safeguarded through several measures. Construct validity is ensured by grounding all indicators in established scholarly literature, while data reliability is reinforced through cross-source verification of executive attributes and triangulation of environmental, social and governance (ESG) metrics across multiple providers. Internal validity is strengthened by the use of firm fixed effects to eliminate time-invariant confounding factors, alongside a comprehensive set of control variables and extensive sensitivity analyses. External validity is supported by wide market coverage across stock exchanges, industries and regions, which enhances the generalisability of the findings. To ensure transparency and reproducibility, all procedures relating to data cleaning, transformation and analysis are fully documented.

The reliability and validity of the empirical analyses are addressed through a range of methodological procedures designed to strengthen the robustness of the findings. Reliability is supported by the use of structured secondary data drawn from established and publicly available sources, together with consistent variable construction and the re-estimation of models using alternative specifications and ESG measures. This helps ensure that the results

are not dependent on a single dataset or modelling choice. Validity is enhanced by explicitly addressing the principal threats to inference. To reduce bias arising from unobserved heterogeneity, the study employs a two-stage residual inclusion (2SRI) approach. Broader endogeneity concerns are addressed through an instrumental variable model, which seeks to isolate exogenous variation in the key explanatory variables. Potential bias associated with omitted factors and non-random sample selection is further examined through the Heckman two-step procedure. In addition, time-lagged analysis is used to strengthen temporal ordering and reduce concerns about reverse causality, by testing whether prior TMT characteristics are associated with subsequent ESG performance.

3.6 Ethical Considerations

Ethical integrity is a central principle underpinning the conduct of academic research, particularly when working with corporate data and organisational information. This study relied exclusively on secondary data obtained from publicly accessible sources, such as company annual reports, stock exchange filings, and established financial databases including CSMAR and Bloomberg. As the data are already in the public domain, issues relating to informed consent or personal confidentiality do not arise. Nonetheless, ethical standards were upheld throughout the research by ensuring that data are presented accurately, analyses are conducted transparently, and sources are cited appropriately. All data handling procedures, including cleaning, transformation, and statistical treatment, are documented to promote transparency and replicability. The study also adheres to relevant institutional guidelines for research ethics and academic integrity, ensuring that no data manipulation or biased interpretation occurred. No ethical risks or conflicts of interest are identified during the course of this work, and all results have been reported in a fair and objective manner.

3.7 Summary

This thesis adopts a coherent and rigorous philosophical position grounded in positivism. Its realist ontological assumptions affirm the existence of an objective reality shaped by observable executive attributes. Its objectivist epistemology emphasises impartial observation and systematic analysis as the basis for knowledge. Its methodological

orientation favours quantitative techniques that enable hypothesis testing, generalisation, and causal inference. These elements form a robust framework for investigating the influence of top management team characteristics on strategic decision-making and corporate performance in the context of Chinese publicly listed firms.

By adhering to the principles of positivism, the thesis contributes to the growing body of evidence-based research in strategic management and offers practical insights for enhancing executive effectiveness and organisational outcomes. When comparing the characteristics of Chinese top management teams with those abroad, several notable differences emerge, particularly in the areas of executive composition, leadership structure, and professional backgrounds. The differences between Chinese and international TMTs can be understood through the lens of the 10 key variables: team size, CEO duality, age, educational background, executive tenure, R&D functional track, remuneration, concurrent directorships, regulatory or government background, and gender. The key differences in the characteristics of Chinese TMTs compared to those abroad reveal a distinct leadership profile shaped by both domestic cultural factors and institutional norms. Chinese TMTs are smaller in size, have shorter tenures, and are less diverse in terms of educational backgrounds and gender compared to their counterparts in Western firms. The prevalence of CEO duality, government experience, and lower executive remuneration in China reflects the country's unique political and business environment, where the intertwining of state and corporate governance plays a significant role in shaping leadership structures and strategic decision-making. The findings discussed in this chapter align with most of the hypotheses of Upper Echelons Theory which needs to be modified for the Chinese context.

Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG

This chapter examines how strategic decisions within organisations are shaped by the characteristics of top management teams (TMTs), focusing on their proactive responses to institutional transformations across environmental, social, and governance (ESG) dimensions. Moving beyond traditional views of firms as passive entities conforming to external pressures, this study highlights the capacity of TMTs to act as institutional entrepreneurs. These leaders do not merely navigate institutional landscapes—they also reshape them through strategic foresight, stakeholder engagement, and policy influence. Educational background exhibits a positive relationship with ESG performance, indicating that executives possessing higher or more specialised levels of education are more likely to support sustainability-oriented strategic initiatives.

4.1 Introduction

China's ongoing transition from a manufacturing-led to an innovation-driven economy adds further complexity, intensifying the importance of leadership traits that support agility, technological capability, and cross-border operations (Hu et al. 2021). China serves as a compelling empirical setting for exploring how top management team characteristics influence strategic outcomes. Its distinctive institutional arrangements, governance practices, and executive profiles offer a valuable opportunity to test the generalisability of established theories and to generate novel insights that reflect the realities of non-Western corporate systems. The ten focal TMT variables—team size, CEO duality, age, educational background, executive tenure, R&D experience, remuneration, concurrent directorships, regulatory background, and gender diversity—gain particular analytical salience in the Chinese context, enabling a deeper understanding of how leadership shapes organisational behaviour in emerging market settings.

4.2 Model Application

4.2.1 Moderating variables

In the context of environmental changes, Chinese firms, particularly those led by forward-thinking TMTs, are increasingly engaging in institutional shaping rather than simple adaptation. In sectors such as renewable energy, technology, and finance, management teams leverage regulatory familiarity and political networks to influence legislative outcomes and define emerging industry norms. This strategic engagement enables firms to gain early-mover advantages and tailor market rules to better support their competitive positioning. TMTs utilise tools such as alliance-building, regulatory lobbying, and participation in industry coalitions to achieve these ends, demonstrating the intersection between environmental strategy and institutional entrepreneurship.

Social changes have also prompted a re-evaluation of corporate strategy. TMTs in Chinese listed companies are increasingly aligning strategic decision-making with societal expectations surrounding sustainability, equality, and corporate citizenship. Firms are not only adopting corporate social responsibility initiatives but embedding them within core strategic objectives. As a result, companies that respond proactively to social dynamics—such as gender equality and ethical governance—are experiencing reputational gains, stronger investor confidence, and improved access to external resources. The effectiveness of such strategies is shaped by the composition of the TMT; variables such as gender diversity, educational background, and experience influence the orientation and efficacy of strategic responses.

Governance-related changes further complicate strategic decision-making. Firms facing evolving governance structures—whether through regulatory tightening, public scrutiny, or stakeholder activism—must balance compliance with innovation. Chinese firms, especially state-owned enterprises (SOEs), face unique challenges due to their dual accountability to market performance and government mandates. TMTs with political or regulatory experience are often better equipped to manage these tensions, navigating reforms while maintaining strategic coherence. However, over-reliance on political ties can create

vulnerabilities, particularly in volatile political environments. Therefore, governance-related responses require a careful balance between influence and transparency, with TMTs playing a pivotal role in upholding legitimacy while securing strategic advantage.

Overall, this chapter illustrates that the strategic role of TMTs is multifaceted and deeply embedded in the institutional fabric of the Chinese corporate landscape. Their characteristics—such as team size, CEO duality, age, education, tenure, functional background, remuneration, external directorships, political affiliations, and gender—collectively shape how organisations respond to institutional complexity. These variables do not operate in isolation; their effects are mediated by ownership structure, regulatory environment, and market dynamics. For example, the impact of executive age on risk preferences may differ between SOEs and private enterprises, while the strategic utility of R&D experience depends on the firm's innovation orientation.

A critical methodological choice in this research was the adoption of panel data, which allows for a more nuanced analysis of how firm-level characteristics evolve over time. Compared to pooled cross-sectional data, which treats each observation independently, panel data preserves the time-series and cross-sectional structure, enabling the analysis of within-firm changes and the control for unobservable, time-invariant heterogeneity. This is particularly valuable in governance studies, where firm-specific factors such as management culture, ownership structures, or regulatory history may influence both TMT attributes and strategic outcomes.

A panel design (Data described in Table 4) is employed because the research questions are inherently longitudinal, addressing how intra-firm changes—such as variations in team size, tenure distribution or functional expertise—translate into subsequent strategic outcomes. Panel data allow the disentanglement of within-firm dynamics from cross-sectional differences and offer stronger control over unobserved, time-invariant heterogeneity that frequently challenges governance research, such as enduring ownership structures, regional policy regimes or entrenched managerial cultures. In line with this reasoning, the baseline estimator adopts firm fixed effects with year dummies, thereby identifying effects from intra-firm variation while controlling for common macroeconomic shocks. This design is

particularly suited to examining environmental, social and governance (ESG) performance, as it isolates how internal leadership adjustments interact with external pressures to shape firms' evolving sustainability strategies.

To further improve model validity, fixed effects regression was employed to address endogeneity concerns stemming from omitted variables that are constant over time but differ across firms. By focusing on within-firm variation, the fixed effects estimator eliminates bias introduced by unobserved, time-invariant firm characteristics. This is particularly useful when investigating the strategic impact of demographic or experiential changes within TMTs, such as a shift in team composition or remuneration structure. By contrast, random-effects models rest on the assumption that unobserved heterogeneity is uncorrelated with the explanatory variables—an assumption frequently unmet in corporate governance research and one that can result in biased estimates. Hausman tests supported the use of fixed effects in this study, confirming that unobserved firm-specific effects are likely correlated with the explanatory variables.

Panel data analysis allows for the inclusion of firm-year fixed effects, which help control for time-specific shocks (e.g., regulatory changes, economic crises) that affect all firms simultaneously but may confound the relationship between TMT attributes and strategic outcomes. By standardised data, the model can more precisely isolate the effects of top management characteristics on strategy. Using ESG data from Bloomberg, the effective panel data firm-year observations are 14,253.

Table 4 Definition of variables

Variable category	Variable Name	Definition	Source
Dependent Variable	Bloomberg ESG	Numeric ESG score	Bloomberg
	Huazheng ESG	Numeric ESG score, used only in robustness test	Sino-Securities Index Information Service (Shanghai) Co. Ltd
Independent Variable	Team size	Total number of top management team members	Stock Exchanges
	CEO Duality	Equals 1 if the chief executive also serves as board chair; 0 otherwise.	Stock Exchanges
	Age	Mean of the top management team members' age	Stock Exchanges
	Educational background	Educational qualification on an ordered scale	Stock Exchanges
	Executive tenure (time in position)	Mean of the appointment years to the current role in top management team	Stock Exchanges
	R&D functional track	Ratio of top management team members who have R&D experience	Stock Exchanges
	Remuneration	Total top management team members pay, excluding equity compensation, divided by the number of TMT members	Stock Exchanges
	Total number of concurrent directorships held by the executive	Mean of the number of outside board seats an executive holds simultaneously	Stock Exchanges
	Regulatory or government background	Total number of top management team members who have regulatory/government background	Stock Exchanges
	Gender	Total number of top management team female members	Stock Exchanges

Variable category	Variable Name	Definition	Source
Control Variables	Financial leverage (debt ratio)	debt-to-assets ratio	Stock Exchanges
	R&D intensity	development expenditure divided by operating revenue	Stock Exchanges
	Profit Margin	operating profit divided by operating revenue	Stock Exchanges
	Ratio of independent directors	the share of a company's board composed of members who are independent	Stock Exchanges
	Board size	the total number of directors sitting both on a company's board and top management teams	Stock Exchanges

Stock Exchanges: the Shanghai Stock Exchange, the Shenzhen Stock Exchange, and the Beijing Stock Exchange

The correlation matrix (shown in Table 5) indicates that ESG has its strongest positive bivariate association with age (moderate in size and statistically significant), followed by smaller but significant positive links with educational background, concurrent directorships, R&D functional track and financial leverage. Gender, likewise is weakly positive. Executive tenure is negatively related to ESG at a modest yet significant level while regulatory or government background is less significant. By contrast, team size, CEO duality, remuneration, R&D intensity and profit margin show no meaningful association with ESG. On the board side, the proportion of independent directors is weakly positive, whereas board size is weakly negative. Given the sample size, many coefficients reach conventional significance, but most are small in absolute terms. The correlations are descriptive and do not imply causation or adjust for confounders.

Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG

Table 5 Pearson correlation matrix of key variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Bloomberg ESG	1															
(2) Team size	0.012 (0.138)	1														
(3) CEO Duality	0.001 (0.938)	-0.006 (0.202)	1													
(4) Age	0.337*** (0.000)	0.047*** (0.000)	0.037*** (0.000)	1												
(5) Educational background	0.174*** (0.000)	0.079*** (0.000)	0.020*** (0.000)	0.034*** (0.000)	1											
(6) Executive tenure (time in position)	-0.197*** (0.000)	-0.084*** (0.000)	-0.016*** (0.001)	0.161*** (0.000)	-0.037*** (0.000)	1										
(7) R&D functional track	0.050***	0.236***	0.017***	-0.004	0.212***	-0.053***	1									

Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	(0.000)	(0.000)	(0.000)	(0.381)	(0.000)	(0.000)										
(8) Remuneration	-0.002	-	0.007	-0.008*	-	-	-		1							
	(0.797)	(0.000)	(0.135)	(0.078)	(0.000)	(0.003)	(0.000)									
(9) Total number of concurrent directorships held by the executive	0.154***	-0.001	0.029***	0.050***	0.134***	-0.005	0.040***	0.009*	1							
						(0.287)	(0.000)	(0.055)								
(10) Regulatory or government background	-	-	-	0.049***	-	0.501***	-	0.568***	-	1						
	0.018**	0.554***	0.019***	0.106***		0.189***		0.032***								
	(0.029)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)							
(11) Gender	0.016*	0.374***	0.015***	-	0.063***	-	0.017***	-	0.047***	-	1					
				0.141***		0.120***		0.215***		0.246***						
	(0.064)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)						
(12) Financial leverage (debt ratio)	0.044***	0.002	-	0.000	-	-0.008*	-	-	-	0.032***	-	1				
			0.009**		0.014***		0.038***	0.017***	0.013***		0.018***					

Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	(0.000)	(0.670)	(0.045)	(0.973)	(0.003)	(0.080)	(0.000)	(0.000)	(0.005)	(0.000)	(0.000)					
(13) R&D intensity	0.01	0.016***	0.001	-0.011**	0.017***	-0.019***	0.026***	-0.004	0.006	-0.015***	0.021***	-0.005	1			
	(0.219)	(0.001)	(0.631)	(0.016)	(0.000)	(0.000)	(0.000)	(0.010)	(0.000)	(0.005)	(0.000)	(0.000)				
(14) Profit Margin	0.004	0.005	0.001	0.004	0.010**	0.008*	0.007	0.005	0.005	-0.003	0.002	-0.072***	-0.056***	1		
	(0.635)	(0.225)	(0.886)	(0.374)	(0.029)	(0.083)	(0.142)	(0.261)	(0.264)	(0.459)	(0.710)	(0.000)	(0.000)			
(15) Ratio of independent directors	0.028***	0.021***	0.007	-0.011**	0.015***	-0.004	0.009**	-0.006	0.008	0.052***	0.022***	0.005	-0.004	-0.003	1	
	(0.001)	(0.000)	(0.155)	(0.021)	(0.001)	(0.396)	(0.047)	(0.230)	(0.104)	(0.000)	(0.000)	(0.301)	(0.343)	(0.537)		
(16) Board size	-0.051***	0.619***	-0.018***	-0.005	0.037***	-0.120***	0.127***	-0.372***	0.042***	-0.139***	0.234***	0.011**	0.008*	0.005	-0.068***	1
	(0.000)	(0.000)	(0.000)	(0.301)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.021)	(0.087)	(0.305)	(0.000)	

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

To further check for multicollinearity, variance inflation factors are calculated and reported in Table 6. Team size shows a mild elevation ($VIF = 2.429$; tolerance = 0.412). All other predictors have VIFs at or below 2, suggesting negligible collinearity. Standard diagnostics treat values below 0.10 as indicative of severe multicollinearity, 0.10–0.20 as potentially problematic, and values above 0.20 as broadly acceptable. The results indicate a low overall collinearity burden because all predictors comfortably exceed the 0.20 benchmark. The VIF diagnostics generally suggest low multicollinearity (mean $VIF = 1.275$).

Table 6 Variance inflation factors of the variables

Variables	VIF	1/VIF (Tolerance)
Team size	2.429	0.412
Regulatory or government background	1.797	0.556
Remuneration	1.771	0.565
Board size	1.580	0.633
Gender	1.150	0.870
R&D functional track	1.078	0.928
Age	1.063	0.940
Educational background	1.047	0.955
Ratio of independent directors	1.040	0.962
Financial leverage (debt ratio)	1.040	0.962
R&D Expense/Revenue	1.039	0.962
Total number of concurrent directorships held by the executive	1.035	0.966
Executive tenure (time in position)	1.031	0.970
Profit Ratio	1.023	0.978
CEO Duality	1.006	0.994
Mean VIF	1.275	.

4.2.2 Model specification

The choice between fixed effects (FE) and random effects (RE) hinges on how one treats unobserved, unit-specific factors that do not vary over time. In studies of corporate governance—particularly those examining how top management team (TMT) characteristics shape strategy—it is highly plausible that firm-specific attributes (e.g., organisational culture, ownership legacies, regional policy regimes, or long-standing stakeholder relationships) are both persistent and correlated with the observed regressors. Under such conditions, the FE estimator is preferred because it differences out all time-invariant heterogeneity at the firm level, thereby mitigating bias from omitted, stable influences.

By contrast, RE assumes that these unobserved firm effects are orthogonal to the explanatory variables. This is a demanding assumption in governance research, where executive selection, remuneration design, and board structures are typically path-dependent and entangled with the firm's historical choices and institutional positioning. If this orthogonality fails, RE estimates become biased and inconsistent. Empirically, the Hausman specification test directly probes this assumption; significant test statistics indicate systematic differences between FE and RE estimates, thereby favouring FE.

Substantively, FE aligns with the theoretical aims of the analysis. The central questions concern how changes within a given firm over time—for example, alterations in team size, tenure distribution, or the presence of R&D experience—translate into shifts in strategic outcomes that determine ESG performance. FE focuses precisely on this within-entity variation, comparing each firm with itself over time and stripping out time-invariant confounds (such as enduring governance traditions or industry positioning) that pooled models or mis-specified RE models would leave in the error term.

Methodologically, FE also offers several practical advantages. First, it reduces omitted-variable bias associated with stable, unmeasured factors. Secondly, in panels with sufficient temporal depth, FE improves causal interpretation by ensuring that estimated coefficients reflect intra-firm dynamics rather than cross-sectional composition effects. Thirdly, FE readily accommodates time dummies (or year fixed effects) to net out common shocks—

Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG policy reforms, macroeconomic fluctuations, or market-wide events—that could otherwise contaminate estimates.

There are, of course, trade-offs. FE cannot estimate coefficients on variables that do not vary within units (e.g., truly time-invariant firm attributes). Where such effects are theoretically important, one may consider hybrid or within-between models, or exploit episodes of change (e.g., leadership turnover) to identify within-firm contrasts. Efficiency is another consideration: when the RE assumptions hold, RE is more efficient than FE. However, in governance contexts—especially in China, where ownership form, political ties, and regulatory exposure are structurally intertwined with managerial choices—the RE assumptions are unlikely to be satisfied. Prior knowledge of the setting therefore supports FE on both theoretical and empirical grounds.

In sum, fixed effects are adopted because they (i) control for unobserved, time-invariant firm characteristics that plausibly correlate with TMT variables; (ii) concentrate identification on within-firm change, which matches the research questions; and (iii) pass formal specification tests (e.g., Hausman test with p value = 0.0000) that typically reject the RE orthogonality assumption in this context. This modelling strategy strengthens internal validity and yields estimates that are better aligned with the institutional realities of Chinese listed companies.

4.3 Hypotheses Formulation

4.3.1 Corporate ESG Performance

While conventional financial indicators remain important, they often fail to fully capture the long-term impacts and sustainability of corporate strategies. ESG metrics offer a more comprehensive perspective, enabling analysis of how firms perform on environmental responsibilities, engage with social stakeholders, and uphold sound governance practices. These dimensions are closely linked to strategic decisions, such as investments in green technologies, supply chain ethics, employee welfare, and board structure reforms. By incorporating ESG indicators into evaluations of strategic outcomes, researchers can better assess the extent to which firms align their long-term objectives with sustainable and responsible practices. In this study, ESG performance is used not only as a measure of

corporate success but also as a reflection of the strategic direction pursued by top management teams. This approach allows for a broader and more nuanced understanding of how executive decision-making translates into meaningful organisational outcomes beyond purely financial results.

4.3.2 Dimensions of Top Management Teams

Top Management Teams (TMTs) are composed of individuals whose combined attributes can have a significant bearing on an organisation's strategic choices and overall performance. The key dimensions typically examined in TMT research include demographic characteristics, professional background, cognitive diversity, and team structure. Demographic aspects—such as age, gender, and educational attainment—can influence leadership style, openness to innovation, and tolerance for risk. Meanwhile, variation in functional experience, including roles in finance, operations, or research and development, contributes to the breadth of knowledge available within the team and can affect the strategic focus of the firm. Cognitive diversity, often reflected in differences in tenure and career trajectories, may enhance creative thinking and strategic flexibility, although it can also introduce coordination challenges. Structural factors, such as the size of the executive team, the presence of CEO duality, remuneration, and concurrent directorships, further shape the dynamics of strategic decision-making. These dimensions interact with organisational and institutional settings, influencing how leadership teams respond to external pressures and internal complexities. As such, a thorough understanding of the multiple facets of TMTs is essential for analysing how firms formulate and implement strategic decisions concerning ESG.

4.3.3 Relationship between Top Management Teams and Corporate Performance on Strategic Decisions

Strategic decision-making acts as the conduit through which TMT characteristics influence firm performance. Decisions regarding diversification, mergers and acquisitions, technological investment, and ESG integration often reflect the collective disposition of the executive team. TMTs with greater cognitive diversity are more likely to pursue forward-

looking strategies, such as sustainability initiatives or digital transformation, that may yield long-term competitive advantages even if short-term financial gains are modest. Thus, assessing these intermediate decisions helps researchers and practitioners trace the pathways linking executive composition to firm-level outcomes. The influence of TMTs is also shaped by corporate governance mechanisms. Effective oversight by the board, investor scrutiny, and ownership structures can moderate executive discretion. In firms with robust governance, strategic decisions made by the TMT are more likely to be aligned with shareholder interests and long-term value creation. In contrast, weak governance structures may allow individual executives to exert disproportionate influence, potentially leading to strategic drift or self-interested behaviour. Analytically, exploring the relationship between TMTs and corporate performance requires longitudinal data and sophisticated methods capable of capturing dynamic interactions. Datasets that track changes in executive composition and firm outcomes over time are particularly useful. Advanced statistical techniques such as panel data analysis, structural equation modelling, and multilevel modelling enable researchers to disentangle the effects of individual and team-level variables while accounting for time-varying influences.

The link between TMTs and corporate performance has become a focal point within strategic management research, particularly regarding how executive attributes influence strategic choices. Upper echelons theory, originally proposed by Hambrick and Mason (1984), offers the foundational argument that the characteristics, beliefs, and experiences of senior executives shape the decisions they make and thus, indirectly, the performance of the organisation. Rather than viewing the firm as a singular, rational decision-maker, this perspective highlights the cognitive limitations and subjective judgments of those in leadership positions. As such, the composition and diversity of the TMT are crucial in explaining strategic variation and resultant organisational outcomes. TMT characteristics span several key domains, commonly categorised into demographic attributes, functional experience, and structural roles. Demographic diversity—encompassing factors such as age, gender, and educational background—can influence how risk is evaluated and how responsive the team is to innovation and change. For instance, younger managers may be

more inclined towards disruptive strategies and greater risk-taking, whereas older managers might prefer conservative approaches. Gender diversity can contribute to broader stakeholder awareness and support more inclusive discussions at the executive level.

Furthermore, differences in educational background, such as technical versus business qualifications, can shape strategic priorities and managerial style. Functional expertise within the team is another vital consideration. Executives with backgrounds in disciplines like finance, operations, marketing, or R&D bring distinct perspectives and strategic preferences. A TMT with strong R&D experience, for example, is likely to favour innovation-focused initiatives, whereas those with finance-heavy experience may prioritise cost efficiency and shareholder value. Additionally, government exposure among executives enhances cross-border decision-making capabilities, which is especially pertinent for firms seeking expansion. These experiential differences, when combined, contribute to a more flexible and responsive strategic process, although they may also introduce coordination complexities.

Structural features of the executive team—such as team size, reporting hierarchy, and CEO duality—also affect how decisions are made and executed. Larger teams may offer broader expertise but can experience delays in decision-making due to increased communication demands. CEO duality, where one individual serves as both CEO and board chair, may streamline leadership and unify vision, but it may also reduce board independence and weaken governance. The distribution of power and responsibility within the executive structure thus plays an important role in the effectiveness and balance of strategic leadership.

The connection between TMT attributes and firm performance is not linear and is often mediated by contextual variables. In many instances, diversity within the TMT has been associated with enhanced innovation, better stakeholder engagement, and improved risk management. Conversely, excessive difference can slow decision-making, lead to internal conflict, and undermine strategic alignment, particularly in environments that demand quick and unified responses. Therefore, the advantages of diversity may be conditional upon factors such as organisational culture, the regulatory environment, and industry dynamics. Firms with collaborative and adaptive cultures are typically better equipped to harness the

benefits of TMT diversity. Empirical research across various settings has shown mixed but insightful results. Evidence suggests that firms with greater gender and educational level among executives tend to achieve superior innovation performance and stronger ESG outcomes. In contrast, firms led by long-serving executives may exhibit greater consistency but may resist transformational change. In China, where institutional and political factors significantly shape business behaviour, TMTs with government or party affiliations often enjoy access to preferential treatment and resources. However, such affiliations can also result in decisions that prioritise state-aligned objectives over market-based performance. These findings underscore the importance of examining both the internal characteristics of the team and the external institutional setting in which the firm operates.

The composition and characteristics of top management teams are critical to understanding how strategic decisions are formulated and implemented, and how these decisions ultimately influence organisational performance. While diversity in top management teams can provide cognitive richness and strategic flexibility, it must be managed effectively to avoid potential inefficiencies. The relationship between TMTs and firm ESG performance is multifaceted and contextually dependent, shaped by internal dynamics and external institutional forces. A comprehensive understanding of this relationship offers valuable insights for enhancing strategic leadership in corporate governance and strategic management.

4.4 Empirical Analysis

4.4.1 Regression Models

Model 4.1:

$$ESG_{it} = \alpha_0 + \alpha_i X_{it} + \beta_i Controls_{it} + \mu_i + \sigma_t + \varepsilon_{it}$$

In Model 4.1, ESG_{it} is the explanatory variable of firm performance in this thesis based on the Bloomberg ESG score; X_{it} is a series of explanatory variables of top management team characteristics, $Controls_{it}$ is a series of control variables, μ_i is an individual fixed effect, σ_t is a yearly fixed effect, and ε_{it} is a random error term. The multidimensional fixed-effects linear model (formula shown in Model 4.1), implemented using Stata 17 software, explores how a range of top management team characteristics influence Environmental, Social, and

Governance (ESG) performance. Drawing on the dataset comprising 14,253 firm-year observations, the model demonstrates a high level of explanatory strength, evidenced by an adjusted R-squared value of 0.689, as reported in column 4 of Table 7. This indicates that the independent variables included in the analysis successfully account for a substantial proportion of the variation in ESG outcomes, affirming the robustness of the overall framework.

Table 7 presents the results of the panel fixed-effects regressions examining the relationship between top management team (TMT) characteristics and ESG strategic performance among Chinese listed firms. A panel regression model with firm fixed effects is run (the results are shown in columns 1 and 2, Table 7). The F-statistic of 154.17 is shown in column 1 in the baseline regression and the F-statistic of 125.70 shown in column 2 is after adding control variables. A regression with a small p-value (0.0000) means that independent and control variables add explanatory power beyond the fixed effects. A key result evident in Table 7 is the importance of executive personal characteristics. All but one of the TMT variables are statistically significant (CEO duality is not) before the control variables are added. The signs of the variables are the same with and without the control variables, which provides confidence about the results of the fixed-effects linear model. However, two of the TMT variables lose their statistical significance when the control variables are added: these are remuneration and 'regulatory or government background'. The models in columns 3 and 4 include firm and year fixed effects, such that the estimated coefficients reflect within-firm changes over time rather than cross-sectional differences across firms. The F-statistic of 259.11 is shown in column 3 in the baseline regression and the F-statistic of 219.71 shown in column 4 is after adding control variables. After adding year fixed effects, all the TMT variables lose their statistical significance, with the exception of educational background.

A notable feature of the empirical findings is that the statistical significance and, in some cases, the sign of several coefficients associated with top management team (TMT) characteristics change once year fixed effects are introduced. The reduction in statistical significance observed for certain TMT variables after the inclusion of year fixed effects indicates that part of the association identified in specifications with firm fixed effects alone

reflects shared time trends rather than firm-specific strategic behaviour. Similarly, changes in coefficient direction following the inclusion of year fixed effects suggest that the simpler models were partially confounded by unobserved time-varying factors. When both ESG outcomes and managerial characteristics exhibit systematic co-movement over time, estimates that do not account for year effects may conflate macro-level developments with firm-level relationships. Incorporating year fixed effects mitigates this source of bias and yields estimates that more accurately reflect within-firm, contemporaneous associations.

Educational background demonstrates a statistically significant positive association with ESG outcomes. Specifically, the coefficient of 0.030 ($p < 0.05$) for educational background shows significance in column 4. Although the inclusion of year fixed effects may weaken statistical significance, it enhances the credibility of the empirical analysis by isolating firm-specific managerial influences from broader institutional forces. The persistence of the positive sign suggests that managers with higher or more specialised education may be more capable of recognising the long-term benefits of sustainability, are more familiar with international ESG norms, and are more adept at navigating the complexities associated with implementing such initiatives. This may be attributable to greater awareness of global sustainability standards or an enhanced capacity for long-term strategic thinking. In this context, the intellectual capital of top management appears to be a fundamental driver of a firm's commitment to sustainability, potentially shaping attitudes towards ethical leadership, stakeholder engagement, and corporate responsibility. It reinforces the idea that intellectual capital at the executive level plays a crucial role in guiding firms toward responsible and forward-looking strategies.

The findings indicate that ESG performance in Chinese listed firms is shaped by managerial cognition, incentive alignment, and the capacity to manage external dependencies, rather than by formal authority structures alone. ESG performance emerges as a collective and path-dependent outcome rooted in the composition and experience of the top management team. The outcome in Table 7 reflects a tightening of the identification strategy rather than an instability in the underlying relationships, and it warrants further interpretation across years.

Table 7 Regression results of the effect of top management team characteristics on ESG

	performance			
Bloomberg ESG	(1)	(2)	(3)	(4)
Team size	-0.219*** (0.019)	-0.076*** (0.024)	-0.019* (0.012)	-0.017 (0.014)
CEO Duality	0.084 (0.051)	0.073 (0.051)	0.003 (0.038)	0.004 (0.038)
Age	0.576*** (0.022)	0.555*** (0.022)	-0.007 (0.016)	-0.007 (0.016)
Educational background	0.131*** (0.029)	0.136*** (0.028)	0.029* (0.015)	0.030** (0.015)
Executive tenure (time in position)	-0.447*** (0.025)	-0.451*** (0.024)	0.028 (0.020)	0.030 (0.019)
R&D functional track	0.079*** (0.022)	0.081*** (0.021)	0.001 (0.013)	0.001 (0.013)
Remuneration	0.038*** (0.014)	0.018 (0.014)	-0.009 (0.010)	-0.010 (0.010)
Total number of concurrent directorships held by the executive	0.099*** (0.021)	0.110*** (0.022)	-0.014 (0.010)	-0.014 (0.010)
Regulatory or government background	-0.081*** (0.018)	-0.028 (0.019)	-0.003 (0.011)	-0.004 (0.011)
Gender	0.105*** (0.022)	0.110*** (0.021)	0.008 (0.012)	0.008 (0.012)
Financial leverage (debt ratio)		-0.050 (0.031)		-0.032 (0.026)
R&D Expense/Revenue		0.044 (0.046)		-0.001 (0.007)
Profit Ratio		-0.007*** (0.002)		-0.005** (0.002)
Ratio of independent directors		0.008 (0.013)		0.024** (0.009)
Board size		-0.220*** (0.019)		-0.008 (0.012)
_cons	-0.053** (0.023)	-0.049** (0.023)	-0.019* (0.012)	-0.017 (0.014)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	No	No	Yes	Yes
N	14253	14253	14253	14253
Adj R-squared	0.273	0.293	0.689	0.689
F value	154.17	125.70	259.11	219.71

=** p<0.10 ** p<0.05 *** p<0.01"

Standard errors in parentheses

4.4.2 Endogeneity Issues

The primary empirical approach employs a panel data framework with firm and year fixed effects. This specification controls for unobserved firm-specific characteristics that are constant over time, as well as for common temporal shocks affecting all firms. As a result, the estimated coefficients are identified from within-firm variation, capturing how changes in TMT characteristics over time are associated with changes in ESG performance. However, empirical analysis of the relationship between top management team (TMT) characteristics and ESG strategic outcomes may be affected by endogeneity arising from several sources, including reverse causality, omitted time-varying factors, and unobserved managerial attributes that jointly influence executive composition and sustainability decisions.

Two-stage residualisation inclusion (2SRI)

To counteract distortion arising from unobserved heterogeneity that remains fixed across companies—such as embedded corporate culture, governance style, or regional advantages—the further analysis adopts a two-stage residualisation inclusion (2SRI) strategy (Basu et al. 2018). The 2SRI method belongs to the class of control-function estimators and is designed to account explicitly for endogeneity by isolating the component of the explanatory variable that is correlated with the error term. The process follows Terza's (2017) way method in Stata. Initially, solely the firm identifier is absorbed at the firm level, demeaning every observation around its company-specific average, and thereby stripping out all between-firm, time-invariant variation; the dataset is thus converted into within-enterprise deviations (results shown in columns 1, Table 8). Subsequently, on these firm-centred residuals, the annual absorber removes common year shocks—macroeconomic swings, sector-wide regulatory shifts, or market-wide sentiment—that influence all entities concurrently (results shown in columns 2, Table 8). The resulting disturbances capture only idiosyncratic fluctuations relative to both the firm's customary level and the economy-wide annual condition, yielding a purer source of identifying covariation. By carrying out these projections sequentially, the procedure maintains a modest computational load: each step processes a distinct, low-dimensional dummy set rather than a single expansive firm×year

interaction matrix, markedly cutting memory use and iteration time. Although absorption is hierarchical, final coefficient estimates are numerically identical to those from a one-shot interactive fixed-effects specification, ensuring consistency while markedly improving numerical efficiency in large panels. A singleton denotes a group (such as a firm) that appears just once in the sample, which can cause issues for fixed-effects estimation. Stata handles singleton observations by dropping them. To apply a multidimensional fixed-effects linear model, any observation that constitutes the sole member of its firm–year cell is then dropped as a singleton. 22 singleton observations are dropped in this dataset.

Educational background still shows statistically significant positive associations with ESG outcomes. Among the top management team characteristics examined, executive tenure is found to positively correlate with ESG outcomes (coefficient = 0.030, $p < 0.05$) after adding yearly fixed effect. This suggests that executives with longer tenure may be more predisposed to endorse ESG initiatives, potentially owing to their deeper understanding of organisational operations, heightened confidence in strategic decision-making, or stronger alignment with internal stakeholders. This finding departs slightly from earlier studies which often linked prolonged tenure with resistance to change. In China, tenure may instead foster the institutional trust and continuity required to implement non-financial strategies effectively. Firms which place a premium on executive tenure also value broader strategic objectives, such as sustainability and corporate governance. If both financial and non-financial indicators are tied to time in position, they may serve as an effective mechanism to align executive interests with the expectations of a broader range of stakeholders.

Conversely, the number of concurrent directorships held by the executive appears to be negatively associated with ESG engagement (coefficient = -0.014, $p < 0.05$) after adding yearly fixed effect. This finding implies that when executives take on too many board responsibilities, their ability to prioritise sustainability within their own organisation may diminish. Divided attention or potential conflicts of interest could dilute their commitment to ESG efforts. Likewise, remuneration correlates negatively with ESG performance (coefficient = -0.010, $p < 0.05$). This is somewhat surprising, given the prevailing literature that often highlights the positive influence of remuneration on corporate performance.

Besides, this outcome is not consistent across different models, which needs further analysis.

The application of two-stage residual inclusion (2SRI) advances the literature by offering a more explicit treatment of unobserved heterogeneity than is typically found in studies of executive characteristics and firm outcomes. A considerable body of prior research relies on standard panel estimators and controls for observable firm-level attributes, yet often leaves unresolved the possibility that latent influences may be correlated with executive composition. By employing 2SRI, this thesis provides a more rigorous examination of whether the observed relationships remain once such hidden sources of variation are partially accounted for. In this respect, it contributes additional empirical discipline to a literature in which unobserved firm-level factors remain a persistent concern.

The study offers several implications for corporate practice and policy. First, firms seeking to enhance their ESG performance may benefit from hiring and retaining executives with strong educational credentials and offering compensation packages that reward sustainable performance. Second, careful attention should be given to the structure and demands placed on executive roles, ensuring that responsibilities are not overly fragmented by external commitments. Third, fostering governance structures that emphasise independence and strategic oversight can serve as an important foundation for ESG advancement.

Instrumental variable model

Ownership can be used to alleviate endogeneity in estimating the impact of top-management team characteristics on ESG by providing plausibly exogenous variation in leadership composition. In practice, researchers can instrument TMT traits with ownership regimes' reforms or index-driven changes in investor bases and complement this with difference-in-differences around ownership transitions. The descriptive statistics about ownership (state-owned or non-state-owned) are shown in Table 1. Because ownership may also influence ESG directly (state or mission-driven or patient capital funds for long-term ESG investments), estimates should be interpreted as local to the variation generated by ownership and supported with robustness checks. The instrumental-variable approach is persuasive only if ownership provides substantial predictive power for the instrumented

TMT characteristics (i.e., a strong first stage) and influences ESG largely via those induced changes in the TMT, rather than through any direct pathway.

Following Baum et al. (2007), both the Hansen J statistic for instrument validity and the Wald–Hausman χ^2 test for endogeneity are applied; the former tests the null that all instruments are exogenous, while the latter tests the null that the suspected variables can be treated as exogenous. Using an instrumental variable (IV) model, the F-statistic is 23.24, comfortably above the conventional rule-of-thumb threshold of 10 that signals weak instruments, and broadly consistent with Stock–Yogo benchmarks used in many empirical settings. This indicates that the ownership instrument generates sufficient variation in top-management team (TMT) characteristics to identify their effect on ESG outcomes with modest finite-sample bias. Instrument validity is supported by the over-identification test. The Hansen J statistic equals 0.633 with $\chi^2(1)$ p-value of 0.426, meaning we fail to reject the null hypothesis that all instruments are exogenous at conventional significance levels ($p > 0.10$), which means that instrumental variable is effective.

From Table 8 column (3), the IV model and multidimensional fixed-effects linear model estimates are virtually the same, which is reasonable—within this specification—to treat the putatively endogenous regressors as exogenous. The test for “executive tenure” variable yields a Wald–Hausman $\chi^2(1) = 0.524$ with $p = 0.469$, so it cannot reject the null hypothesis that the OLS model is more effective than IV model. In plain terms, there is no detectable systematic difference between the two estimators, suggesting that OLS is not biased relative to the IV benchmark. The test for “educational background” (Wald–Hausman $\chi^2(1) = 0.280$; $p = 0.597$), “remuneration” (Wald–Hausman $\chi^2(1) = 0.239$; $p = 0.325$) and “Total number of concurrent directorships held by the executive” (Wald–Hausman $\chi^2(1) = 0.219$; $p = 0.640$) variables are also applied. Similarly, the results show that putatively endogenous regressors are exogenous. As IV typically sacrifices efficiency in order to deal with endogeneity, the absence of a significant gap implies that the multidimensional fixed-effects linear model is consistent and more precise here.

The use of an instrumental variable model contributes by addressing endogeneity more directly than much of the existing upper echelons and ESG research. Previous studies have

often identified statistically significant associations between executive characteristics and organisational outcomes, but have not always demonstrated that these relationships are robust to simultaneity or reciprocal influence. By introducing IV estimation, the thesis moves beyond a purely associational framework and subjects the results to a more demanding test of directional plausibility. This strengthens the empirical basis for interpretation in an area where causal claims are often difficult to establish convincingly.

Heckman two-step procedure

The Heckman two-step procedure is designed to deal with endogeneity that arises from non-random sample selection, rather than from simultaneity or omitted variables in general (Heckman 1979). In ESG research, outcomes are frequently observed only for a subset of firm-years because coverage depends on disclosure intensity, firm visibility, data-provider scope, or reporting practices. If these selection forces are correlated with unobserved determinants of ESG performance, estimating the ESG model on the observed subsample may be biased because the regression disturbance is systematically different for covered versus non-covered observations. Heckman's approach addresses this problem by first modelling the likelihood that an ESG score is observed and then using the implied selection term (the inverse Mills ratio) as an additional regressor in the outcome equation. Intuitively, this term captures the part of unobserved heterogeneity that is related to being observed, thereby reducing selection-driven correlation between the regressors and the disturbance.

From Table 8 column (4), the joint F-test yields $F(16, 12,779) = 2.42$ with $p = 0.0012$, falling below the 1% threshold and indicating that the full set of regressors, including the inverse Mills ratio (using the Stata commands “probit” and “predict” to produce), collectively explains a significant portion of the variation in corporate ESG scores. Nevertheless, the coefficient on the inverse Mills ratio itself equals -0.243 (standard error is 0.304, using the Stata command “reghdfe” including inverse Mills ratio in the model), corresponding to the p-value well above 0.10; hence, we cannot reject the null that this term is zero. In practical terms, therefore, no statistically meaningful evidence of sample-selection bias is detected and estimates from a simple OLS model would also be consistent.

The inclusion of the Heckman two-step procedure adds to the literature by addressing the possibility of omitted influences linked to sample selection. Studies using ESG datasets commonly depend on firms for which sufficient rating information is available, yet the implications of this non-random coverage are not always explored in detail. By explicitly modelling selection into the observed sample, the thesis provides a more careful assessment of whether the estimated TMT–ESG relationships are influenced by disclosure-related or other selection effects.

Table 8 Regression results of endogeneity tests

	(1)	(2)	(3)	(4)
	2SRI first-stage	2SRI second-stage	Instrumental variable model	Heckman two-step procedure
	Bloomberg ESG	Bloomberg ESG	Bloomberg ESG	Bloomberg ESG
Team size	-0.076*** (0.024)	-0.017 (0.011)	-0.017 (0.011)	-0.057 (0.051)
CEO Duality	0.073 (0.053)	0.004 (0.039)	0.004 (0.039)	0.048 (0.066)
Age	0.555*** (0.043)	-0.007 (0.014)	-0.007 (0.014)	-0.073 (0.084)
Educational background	0.136*** (0.021)	0.030*** (0.006)	0.030*** (0.006)	0.001 (0.038)
Executive tenure (time in position)	-0.451*** (0.119)	0.030** (0.014)	0.030** (0.014)	-0.155 (0.233)
R&D functional track	0.081*** (0.025)	0.001 (0.013)	0.001 (0.013)	0.011 (0.016)
Remuneration	0.018 (0.012)	-0.010** (0.004)	-0.010** (0.004)	-0.004 (0.013)
Total number of concurrent directorships held by the executive	0.110*** (0.020)	-0.014** (0.007)	-0.014** (0.007)	-0.054 (0.049)
Regulatory or government background	-0.028** (0.013)	-0.004 (0.008)	-0.004 (0.008)	-0.017 (0.017)
Gender	0.110*** (0.014)	0.008 (0.006)	0.008 (0.006)	0.020 (0.017)
Imr				-0.243 (0.304)
Control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	No	Yes	Yes	Yes
N	14231	14231	14231	14231
R-squared	0.588	0.819	0.004	0.819
Adj R-squared	0.542	0.799	-	0.798
F value	79.86	23.24	23.24	2.42
P value of Joint F-test				0.0012
=*** p<0.10 ** p<0.05 *** p<0.01"				

Standard errors in parentheses

4.4.3 Time-lagged Analysis

The empirical specifications employ lagged regressors to reflect the timing of organisational adjustment and to lessen concerns about simultaneity. Alterations in top-management team (TMT) attributes are unlikely to translate into ESG outcomes instantaneously: governance arrangements, strategic reorientation, stakeholder engagement, and disclosure practices typically materialise over successive reporting cycles. Lagging the key explanatory variables therefore helps ensure temporal ordering—TMT characteristics are measured prior to the ESG outcome—and improves measurement coherence in annual data where many indicators are constructed from information accumulated during the preceding fiscal year.

For this thesis, the emphasis is on how demographic and experiential traits of executives (education, tenure, R&D background, outside mandates) tend to reshape routines and project pipelines, and how their influence accumulates over time rather than being exhausted in the current period. Reporting the implied effect of the later 1 to 5 years¹ clarifies how TMT attributes shape not only immediate decisions but the firm's enduring strategic trajectory. The effect in the same period estimates reveal timing—when changes in TMTs attributes bite. The effect of lagged variables addresses strategic magnitude—how far a permanent shift in those attributes moves the firm's steady-state ESG stance. In each of the figures in this section a 95% confidence interval is shown on the vertical axis for each independent variable. If the 95% confidence interval contains 0, this lag variable is not significant. The headers L1 through to L5 represent the years 1 through 5. Figure 4 to Figure 13 were produced using the Stata command “coefplot” after the estimation of variables in the same period and lagged variables. The lag profile provides a transparent account of how TMT traits shape immediate decisions and the enduring trajectory.

The use of time-lagged analysis advances the literature by offering a clearer treatment of reverse causality. Although many studies proceed on the assumption that executive characteristics shape subsequent firm outcomes, fewer test this temporal ordering explicitly. By examining whether TMT characteristics are associated with later ESG performance, this

¹ Stata command: `reghdfe ESG L(1/5).($X) $Controls, a(year Stkcd); est store Lx`

this thesis provides a more credible assessment of whether the observed relationships are consistent with the hypothesised directions of influence.

Team Size

Figure 4 depicts the effect of lagged TMT team size variable on ESG performance. From this we can deduce that both the immediate and time-lagged effects are not significant for team size on ESG performance. However, the size of the top management team is a critical organisational design variable that exerts a profound influence on strategic decision-making, governance quality, and the firm's capacity to deliver sustainable long-term outcomes. The composition and breadth of the top management team (TMT) affect not only the firm's agility and cohesion but also its responsiveness to evolving Environmental, Social, and Governance (ESG) challenges over time. A large executive team may not necessarily result in better long-term performance. Beyond a certain point, increasing the number of executives can lead to diminished returns. Larger teams often suffer from coordination problems, communication bottlenecks, and slower decision-making. These inefficiencies can hamper the firm's ability to respond swiftly to sustainability risks, regulatory changes, or stakeholder demands. Moreover, as team size grows, there is a risk of role ambiguity and diluted accountability, both of which can undermine the implementation of ESG initiatives and compromise strategic consistency.

Conversely, overly small top management teams may lack the necessary diversity of perspective and functional representation. This can result in groupthink, limited problem-solving capacity, and an over-reliance on the CEO or a few dominant voices. In the time-lagged analysis, such structural limitations may inhibit innovation, reduce stakeholder engagement, and result in a narrow interpretation of ESG commitments. As ESG standards become more integrated into investor expectations and public policy, insufficient leadership breadth may hinder the firm's capacity to adapt and remain competitive. The long-term impact of team size also depends on how effectively the group is structured and governed. Clear delineation of roles, decision-making protocols, and communication channels are essential in ensuring that a larger team can operate cohesively. A well-sized top management team can promote diversity of thought, functional specialisation, and broader organisational

representation. When team size is optimally balanced, it can enhance the quality of strategic decisions by integrating different perspectives and expertise areas—such as finance, operations, human resources, legal compliance, and sustainability.

Additionally, leadership teams must cultivate a culture of inclusion and respect, where diverse voices are not only represented but meaningfully heard. Without this cultural underpinning, even a demographically or functionally diverse team may fail to translate its potential into effective governance. This diversity allows for a more holistic approach to long-term planning and fosters alignment with a wider range of stakeholder interests. In ESG-related contexts, having team members with distinct views and skillsets is particularly valuable for tackling complex, interrelated problems such as climate transition, workforce inclusion, and ethical governance.

In conclusion, the effects of lagged top management team size variable are shaped by a balance between scale and efficiency. While larger teams can offer richness of input and increased stakeholder responsiveness, they improve ESG performance in long term. However, it also must be carefully managed to avoid complexity in short term. Similarly, smaller teams may operate with greater speed but must guard against insularity and blind spots. Firms that calibrate team size strategically—taking into account the nature of their industry, ESG exposure, and organisational maturity—are more likely to realise the governance benefits that support sustainable long-term performance.

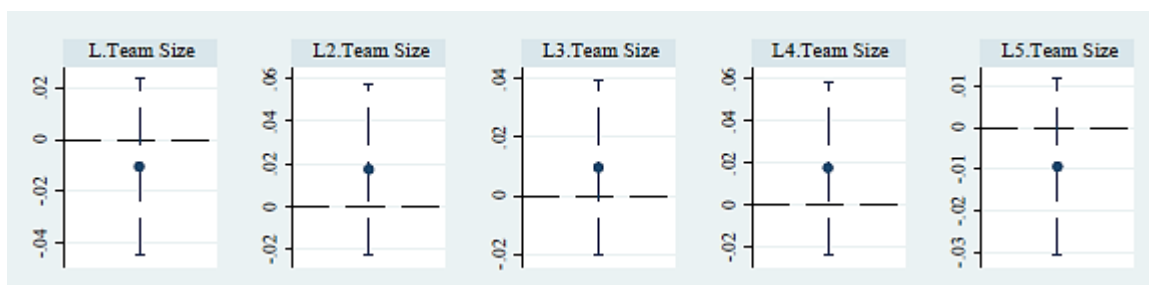


Figure 4 Effects of lagged team size variable on ESG performance

Source: Printed from Stata software

CEO Duality

CEO duality, whereby the Chief Executive Officer concurrently serves as Chair of the Board, continues to be a subject of considerable debate within the corporate governance literature. While such an arrangement can offer short-term efficiencies and unified leadership, its long-term implications for strategy, accountability, and ESG (Environmental, Social, and Governance) performance are far more complex and nuanced. CEO duality presents both opportunities and risks in the long-term. While it may offer short-term alignment and clarity, it can undermine the independence and effectiveness of governance over time. For firms committed to sustainable and responsible leadership, separating the roles of CEO and Chair—supported by a well-functioning, engaged board—provides a more robust framework for long-term ESG performance and strategic resilience.

Empirical studies have shown mixed results concerning the impact of lagged CEO duality variable (shown in Figure 5). Combining both roles streamlines decision-making and ensures strategic alignment between management and the board. In highly dynamic or crisis-prone environments, this concentration of authority may enhance organisational responsiveness, enabling swift action and coherence in vision. For firms undergoing rapid growth or major transformation, a dual-role CEO may offer the stability and decisiveness needed to drive performance and innovation.

From a long-term perspective, however, the drawbacks of CEO duality may outweigh its benefits. Firms operating in jurisdictions with strong shareholder rights, regulatory oversight, and transparent reporting mechanisms tend to perform better when the roles of CEO and Chair are separated. The central concern is the potential erosion of board independence. When the CEO also chairs the board, the capacity of the board to provide effective oversight, challenge decisions, and hold management accountable can be compromised. This may result in weaker governance practices, reduced transparency, and diminished stakeholder confidence—particularly in relation to ESG responsibilities that require rigorous monitoring and ethical scrutiny. CEO duality may foster a culture of excessive deference to the CEO, limiting diversity of thought and discouraging open dialogue at the highest levels of decision-making. Over time, this can lead to strategic entrenchment, resistance to change,

and inadequate responses to stakeholder concerns. ESG-related issues such as diversity, climate risk, or labour practices may be sidelined if the board lacks the independence to assert alternative priorities or perspectives. However, immediate and time-lagged effects are not significant for CEO duality on ESG performance in this model.

In the context of strategic decisions, where long-term thinking, ethical leadership, and stakeholder engagement are paramount, separating the CEO and Chair roles can enhance accountability and signal a commitment to balanced governance. This separation allows the Chair to focus on overseeing the board's functioning and ensuring that ESG issues receive due consideration, while the CEO concentrates on executing strategy and managing operations. Nonetheless, the effectiveness of either structure ultimately depends on the individuals involved and the governance culture of the organisation. A dual-role CEO with high integrity and a strong ESG orientation may deliver excellent results, while a formally independent board without the courage or expertise to challenge management may fail in its oversight role.



Figure 5 Effects of lagged CEO duality variable on ESG performance

Source: Printed from Stata software

Age

The age of top management teams is an often-overlooked variable in strategic decisions discourse, but it plays a subtle and enduring role in shaping strategic orientation, risk tolerance, and the firm's approach to sustainability and innovation. The influence of age is not unambiguously positive. As managers grow older, there may be a propensity towards conservatism and risk aversion, potentially hindering innovation, particularly in ESG-related

technologies or novel business models. Older managers may be less inclined to invest in strategic decisions, particularly if the anticipated benefits are unlikely to materialise within their tenure. This can lead to a shortfall in long-term strategic investment, especially in areas such as renewable energy, employee welfare reforms, or digital transformation for sustainability reporting. Over the long term, executive age exerts multifaceted effects on organisational priorities, particularly in relation to ESG performance.

From a behavioural and cognitive standpoint, older managers are generally perceived to possess greater experience, institutional knowledge, and social capital. These attributes can prove invaluable in managing complex stakeholder environments and navigating regulatory landscapes. Top management teams with longer exposure to the industry often demonstrate heightened sensitivity to reputational risks, which may encourage more robust ESG initiatives and greater alignment with stakeholder expectations. In mature industries, such experience may translate into enhanced governance oversight and prudent capital allocation, both of which are essential for long-term sustainability.

Moreover, generational differences in values and worldviews can also affect ESG attitudes. Younger managers, especially those entering leadership positions in the post-millennial era, tend to demonstrate a stronger affinity with sustainability imperatives, climate action, diversity, and corporate ethics. Their leadership styles are often characterised by openness, inclusivity, and a stakeholder-oriented mindset—attributes that resonate well with ESG performance frameworks. Boards comprised predominantly of older executives may inadvertently lag behind in adopting forward-looking ESG practices or in responding to the changing expectations of investors, regulators, and the public. The relationship between members' age of top management team and strategic decision-making process is not deterministic but shaped by context, industry dynamics, and board composition. A well-functioning board with diverse age representation can leverage the strengths of both senior experience and youthful innovation.

In this regard, the presence of age-diverse executive teams may foster cross-generational learning and a more balanced approach to time-lagged strategic planning, including ESG execution (shown in Figure 6). Although immediate and time-lagged effects are not

significant for age on ESG performance, age may influence strategic decision-making process in different ways over the long term. While experience and wisdom are undeniable assets in navigating complex governance issues, members of top management teams' age homogeneity may suppress organisational agility and strategic responsiveness. Therefore, fostering age diversity within top management teams—not just in terms of representation but also in promoting intergenerational collaboration—can serve as a valuable lever in enhancing long-term corporate resilience and sustainability performance.

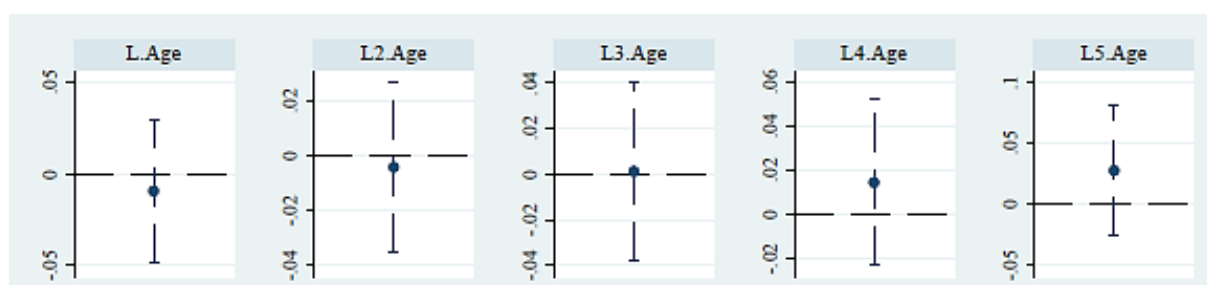


Figure 6 Effects of lagged age variable on ESG performance

Source: Printed from Stata software

Educational Background

The educational background of top management teams is widely regarded as a fundamental determinant of managerial competence, cognitive capacity, and strategic vision. Managers with higher levels of formal education—especially those holding postgraduate or professional degrees—are more likely to exhibit advanced analytical thinking, broader exposure to diverse theoretical frameworks, and a deeper understanding of complex global issues. These qualities can be particularly beneficial when addressing the multifaceted demands of ESG integration, which often require a blend of ethical awareness, stakeholder sensitivity, and long-term planning. Over the long term, this characteristic exerts a profound influence on corporate decision-making, particularly in relation to sustainability agendas and the broader ESG (Environmental, Social, and Governance) landscape, and the time-lagged variable shows significance in year 5 (shown in Figure 7). Members of top management

teams who have pursued education in disciplines such as environmental science, economics, public policy, or law are generally better equipped to comprehend the evolving regulatory and normative expectations placed upon businesses. Their academic grounding may foster a more proactive stance toward sustainability, responsible governance, and stakeholder engagement. Over the long term, this can translate into improved ESG ratings, greater investor confidence, and enhanced reputational capital.

Furthermore, while higher education can promote cognitive sophistication, it does not automatically guarantee strong moral judgement or social awareness. Soft skills such as empathy, ethical reflexivity, and cultural intelligence, though less frequently taught in formal academic settings, are equally vital for advancing strategic decision-making process. This underscores the need for continuous executive education and lifelong learning, especially in a landscape where ESG standards and stakeholder expectations are constantly evolving. Similarly, Xie and Wang (2026) find that reducing managerial short-termism can improve ESG performance. In conclusion, educational background has a lasting impact on how top management teams conceptualise and implement long-term strategies. When aligned with broad-based, interdisciplinary, and ethically grounded learning, education serves as a catalyst for visionary leadership and sustainable performance. Firms aiming to enhance their strategic decision-making process over time would do well to consider educational diversity—not only in terms of academic levels and disciplines, but also in encouraging intellectual openness and values-based leadership within the top management team.

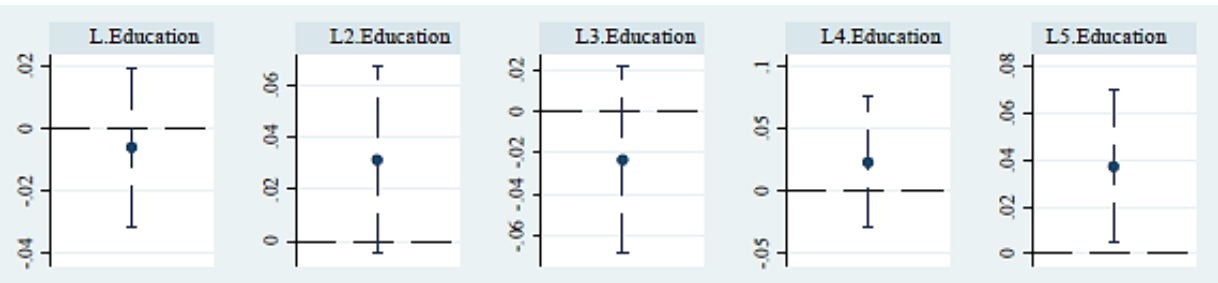


Figure 7 Effects of lagged educational background variable on ESG performance

Source: Printed from Stata software

Executive Tenure (Time in Position)

Executive tenure, referring to the length of time an individual has held a top management team position within a firm, is a significant and complex factor in shaping long-term corporate outcomes. Over time, tenure influences not only managerial behaviour and strategic orientation but also organisational culture and the firm's adaptability to change—factors that are increasingly relevant in the context of ESG (Environmental, Social, and Governance) performance. Executives with extended tenures often develop a deep understanding of the firm's internal dynamics, strategic capabilities, and stakeholder networks. This accumulated experience can translate into more consistent leadership, stability in decision-making, and a grasp of the firm's risk profile. In the long term, these attributes may enable firms to implement strategic decision-making process in a more structured and deliberate manner, particularly those that require sustained commitment, such as emissions reduction, workforce development, or supply chain ethics. Moreover, long-serving executives tend to build trust among employees, shareholders, and external stakeholders. This trust can provide the social capital necessary for pursuing ambitious ESG goals, such as achieving carbon neutrality or enhancing gender diversity. Executives with longer tenures may also possess the political capital within the organisation to allocate resources towards non-financial priorities that might otherwise be sidelined under short-term leadership.

However, the benefits of long tenure are not without limitations. From Figure 8, over time, executives may become increasingly risk-averse, complacent, or resistant to innovation—particularly if their leadership style is closely tied to the status quo. This entrenchment effect can inhibit organisational transformation and delay responses to emerging ESG challenges, such as adapting to stricter environmental regulations or meeting rising expectations around social impact and ethical governance. Prolonged tenure may weaken the independence of the board, especially if executives exert substantial influence over board appointments and internal governance structures. This can reduce oversight quality and hinder the adoption of strategic decision-making process. It is not uncommon for firms with entrenched leadership to display a symbolic or compliance-driven approach to ESG, rather than embedding

sustainability into core strategic objectives. A further consideration is the alignment of personal incentives with long-term corporate goals. Executives nearing retirement may prioritise short-term financial performance over strategic decision-making process that require long-term commitment and may only yield benefits beyond their tenure. This temporal misalignment between leadership horizons and ESG returns can pose challenges for firms aiming to implement forward-looking sustainability strategies.

In summary, while executive tenure can enhance organisational continuity and depth of knowledge, it may also introduce inertia and reduce responsiveness to evolving strategic consideration. The key to leveraging tenure positively lies in fostering a culture of ongoing learning, strategic renewal, and governance checks that prevent stagnation. Periodic performance reviews, succession planning, and board refreshment can help ensure that tenure supports rather than hinders the firm's long-term sustainability objectives.

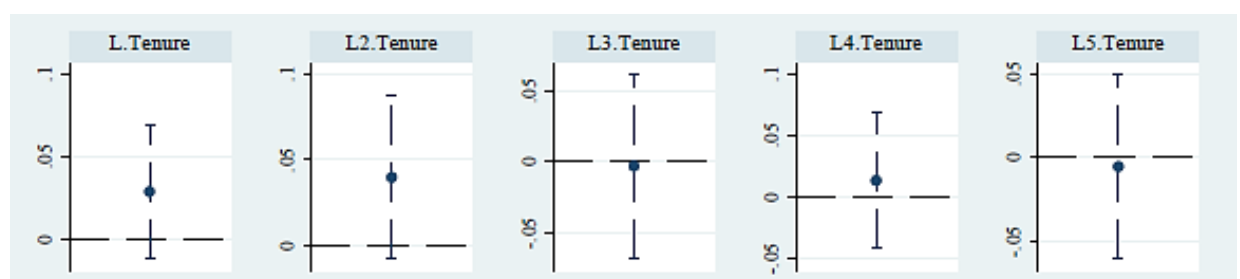


Figure 8 Effects of lagged executive tenure (time in position) variable on ESG performance

Source: Printed from Stata software

R&D Functional Track

An executive's professional background in research and development (R&D) plays a distinctive role in shaping the strategic trajectory of a firm, particularly in relation to innovation, sustainability, and long-term value creation. Executives with R&D functional experience are more likely to appreciate the importance of scientific knowledge, evidence-based decision-making, and long-term investment horizons. These traits are critical when continuing with strategic decision-making process, many of which involve complex,

technical, and evolving requirements. Initiatives such as carbon reduction, clean energy adoption, or sustainable packaging innovation all require a strong foundation in research and a willingness to experiment with novel solutions. Leaders with R&D backgrounds are typically more inclined to allocate resources towards these areas, recognising their potential not only for risk mitigation but also for future competitive advantage. Leaders with experience in R&D-oriented roles tend to foster cultures of experimentation, problem-solving, and technological advancement—attributes that align closely with strong ESG (Environmental, Social, and Governance) performance over time. Managers who have spent a portion of their careers in research-intensive roles often bring with them a more adaptive and forward-looking mindset. They tend to view uncertainty as an opportunity rather than a threat, and are thus better positioned to lead firms through ESG transitions. Whether responding to climate-related risks, shifts in consumer ethics, or rising regulatory demands, these executives are generally more adept at identifying strategic responses rooted in innovation. However, from Figure 9, time-lagged variables are not significant for R&D functional track on ESG performance.

R&D experience must be balanced with commercial acumen. While research-oriented executives may excel at developing innovative solutions, they may be less attuned to cost-efficiency, marketing considerations, or regulatory compliance beyond technical scopes. Without a broader strategic lens, R&D leaders may struggle to fully integrate ESG initiatives into the core business model or communicate their relevance in terms familiar to financial stakeholders. The presence of R&D-oriented executives can also enhance the credibility and effectiveness of ESG reporting and sustainability claims. Stakeholders—including investors, regulators, and customers—are more likely to trust and support firms whose leadership teams are perceived as technically competent and committed to evidence-based ESG integration. In sectors such as pharmaceuticals, energy, and technology, where the environmental and social impacts of operations are particularly pronounced, having scientifically literate leadership can be a strategic asset in the long term. An executive background in R&D offers valuable capabilities for driving strategic decision-making process over the long term. In long term, when complemented by strategic integration, cross-

functional collaboration, and balanced governance structures, R&D experience can serve as a catalyst for sustainable transformation and enduring value creation.

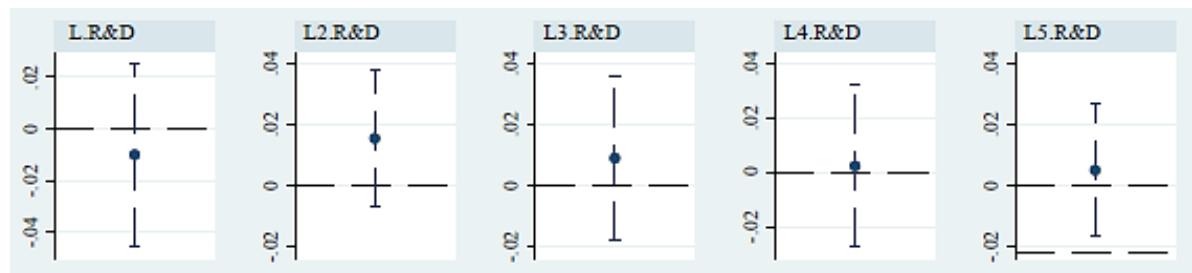


Figure 9 Effects of lagged R&D functional track variable on ESG performance

Source: Printed from Stata software

Remuneration

In the effect of lagged variable, remuneration also shows negative relationship with ESG performance, but does not show significance (shown in Figure 10). Executive remuneration is a critical dimension of corporate governance, with long-term implications for organisational behaviour, strategic direction, and stakeholder trust. The way in which senior leaders are compensated not only signals the firm's priorities but also shapes managerial incentives and attitudes toward Environmental, Social, and Governance (ESG) considerations over time. In theory, appropriately structured remuneration packages can act as a powerful tool to align executive interests with those of broader stakeholders, encouraging a long-term perspective and sustainable business practices. For example, when remuneration is tied to long-term performance metrics—such as reductions in carbon emissions, improvements in employee wellbeing, or the achievement of diversity targets—executives are more likely to internalise ESG objectives within corporate strategy.

In empirical studies, it aligns with the theory. This alignment can foster sustained investment in ESG initiatives, promote innovation in responsible practices, and improve the firm's reputation among investors, regulators, and consumers alike. However, in many organisations, executive pay remains disproportionately tied to short-term financial

outcomes such as share price performance, earnings per share, or revenue growth. Such misaligned incentives can foster managerial short-termism, prompting executives to prioritise immediate financial returns at the expense of sustained value creation. Within the realm of ESG, this may be reflected in cost-cutting measures that compromise environmental compliance, insufficient investment in employee development, or diminished attention to principles of sound governance. Such practices may boost financial results in the short term but often come at the cost of reputational damage, legal risk, or stakeholder disengagement in the long term. Over time, firms that integrate ESG-related indicators into their executive compensation frameworks tend to outperform those that rely solely on financial or short-term targets. This is because such firms are better positioned to anticipate emerging risks, comply with tightening regulations, and meet rising stakeholder expectations. Furthermore, they are more likely to attract long-term institutional investors who value corporate responsibility alongside profitability.

High levels of executive pay can also trigger negative perceptions among employees, investors, and the public, particularly when not accompanied by transparent performance justification. In a context where income inequality and social justice are growing concerns, excessive remuneration—especially if unlinked to ESG outcomes—can undermine trust in leadership and damage the firm's social licence to operate. Moreover, there is increasing regulatory and shareholder scrutiny of executive pay structures. From a long-term perspective, this erosion of legitimacy may pose strategic risks that are difficult to reverse. Firms that fail to demonstrate alignment between pay and responsible conduct may face shareholder activism, reputational fallout, or even regulatory intervention. Remuneration has a profound and lasting impact on executive behaviour and organisational priorities. When designed with a long-term, stakeholder-oriented ethos, compensation frameworks can promote sustainable leadership and ESG excellence. However, if structured around narrow or short-term metrics, executive pay may inadvertently discourage responsible business conduct. It is therefore vital that firms adopt balanced, transparent, and forward-looking remuneration strategies that support their long-term strategic decision-making process.

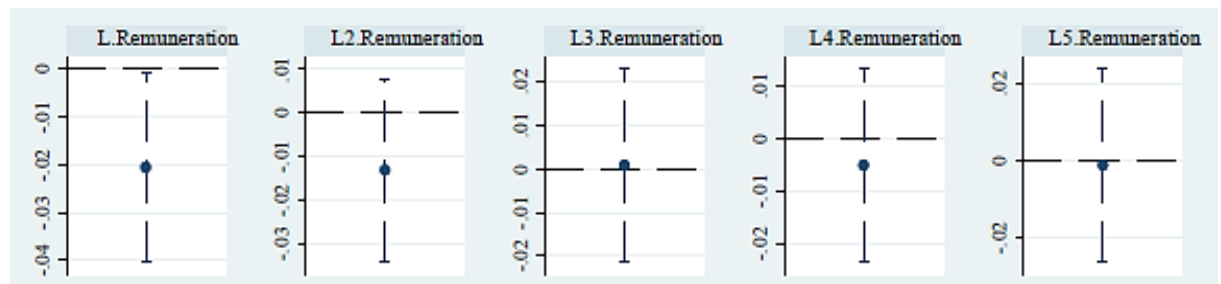


Figure 10 Effects of lagged remuneration variable on ESG performance

Source: Printed from Stata software

Total Number of Concurrent Directorships Held by the Executives

The number of concurrent directorships held by an executive—commonly referred to as board interlock—has drawn increasing concern in debates surrounding corporate governance effectiveness. While holding multiple board positions may offer certain reputational or informational benefits, the empirical results show that this practice can undermine an executive’s capacity to effectively oversee and implement on strategic decision-making process. Over the long term, a high number of external appointments is often associated with diminished ESG performance. From an investor’s perspective, a highly interlocked executive profile may raise red flags about governance quality. ESG-focused investors, in particular, may view multiple directorships as a sign of inadequate commitment to sustainability or a lack of seriousness in addressing ESG risks. Excessive board interlocks may dilute leadership effectiveness and reduce the quality of ESG engagement. Firms should therefore establish clear policies on external directorships to ensure that executive capacity is aligned with long-term sustainability goals. Over time, this perception can affect a company’s access to responsible capital, damage its standing in ESG ratings, and weaken stakeholder trust. From Figure 11, time-lagged variables are also negative and significant in L5. Regulators and institutional shareholders are increasingly taking action against “busy outside directors”, which refers that directors sit on too many boards (Fich and Shivdasani 2006), diminishing their ability to serve organisations effectively. Companies whose boards exceed these limits risk adverse proxy votes and reputational damage (Jiraporn et al. 2008).

At the core of this issue lies the challenge of time and attention. The time and energy required to serve multiple boards may detract from the executive's ability to lead strategic transformation within their primary firm. Effective strategic leadership often demands sustained attention, strategic coordination, and close collaboration with operational teams—factors that are unlikely to be fulfilled by executives spread too thinly across competing responsibilities. ESG oversight, by its nature, demands a sustained and strategic commitment—particularly as firms face increasing pressure to address environmental risks, ethical supply chain concerns, and social inclusion. When executives are overextended, the likelihood of neglecting or superficially addressing such matters increases, leading to weaker ESG outcomes. There is also a structural governance risk. Executives who serve on numerous boards may have conflicts of interest, particularly if those firms operate in similar industries or share suppliers, customers, or competitors. These conflicts can interfere with objective oversight and compromise decision-making related to ESG matters. Excessive external appointments may erode the independence of the board, as directors may be reluctant to challenge peers with whom they share interlocking positions.

Moreover, multiple board mandates can dilute accountability. As executives become embedded in several corporate networks, their individual accountability to any single firm diminishes. This can result in a superficial approach to ESG governance, where policies are adopted for appearance's sake rather than being meaningfully implemented. Such tokenism may satisfy formal disclosure requirements in the short term, but it is unlikely to deliver the depth of change or cultural transformation necessary for lasting ESG impact. An excessive number of directorships often proves detrimental to strategic decision-making process over the long term. Firms seeking to strengthen their sustainability credentials should adopt clear policies limiting concurrent board roles and prioritise governance structures that ensure focused, accountable, and strategic leadership at the executive level.

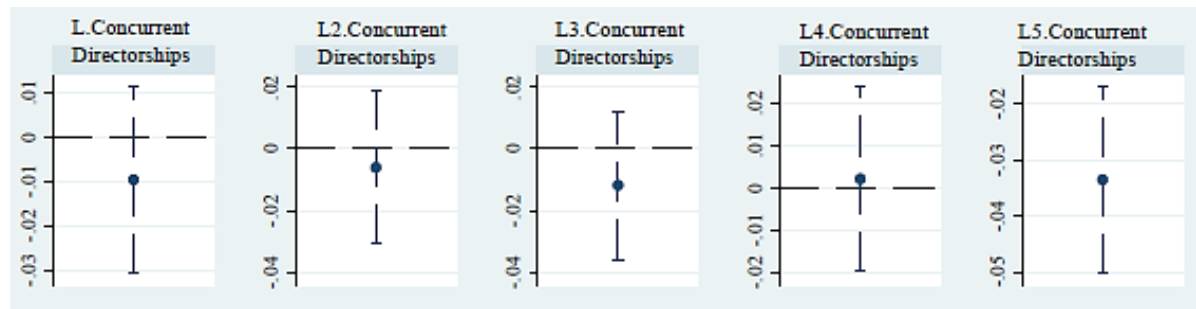


Figure 11 Effects of lagged the total number of concurrent directorships held by the executive variable on ESG performance

Source: Printed from Stata software

Regulatory or Government Background

An executive's background in the public sector—whether through experience in government agencies, regulatory bodies, or state-affiliated institutions—can significantly shape corporate behaviour, especially in the context of governance, compliance, and stakeholder relations. Regulatory or government experience does not invariably translate into strong ESG performance. In some cases, top management teams from the public sector may adopt risk-averse or bureaucratic management styles, prioritising rule-following and procedural compliance over innovation and strategic renewal. This can inhibit the proactive and transformative thinking needed to integrate ESG into core business models. Generally, initiatives related to environmental innovation, social entrepreneurship, or inclusive governance may require a level of agility and creativity not typically fostered in traditional government environments. Another consideration is the potential for “regulatory capture” within firms—where government-affiliated executives prioritise compliance in form rather than in substance. In such instances, strategic decision-making process may exist on paper but lack meaningful implementation, leading to superficial or symbolic adherence to sustainability norms. This undermines the long-term credibility and effectiveness of ESG strategies, particularly as external stakeholders become increasingly adept at identifying greenwashing or performative governance. Furthermore, concerns around political affiliations or perceived favouritism may arise, particularly in regions where the boundaries

between business and state are less clearly defined. Executives with strong political ties may be viewed as representing vested interests, which could undermine stakeholder trust or attract public criticism. This reputational risk can affect investor confidence and jeopardise the legitimacy of ESG commitments.

However, in general, executives with regulatory or government experience often bring a strong understanding of public policy, legal compliance, and institutional frameworks. This knowledge can be particularly valuable in industries with heavy regulatory oversight, such as finance, energy, healthcare, or telecommunications. Their familiarity with policymaking processes and legal standards equips them to anticipate regulatory changes, manage compliance proactively, and engage effectively with public authorities. In the context of ESG, these capabilities can facilitate adherence to environmental regulations, labour standards, and corporate disclosure requirements—areas that are increasingly scrutinised by both regulators and investors. Moreover, individuals with a public-sector background may bring a more stakeholder-oriented approach to corporate governance. Accustomed to serving public interests, they may exhibit greater concern for ethical conduct, social impact, and transparency. These qualities can enhance a firm's strategic decision-making process and help build stronger relationships with communities, employees, and government stakeholders. In certain sectors, such as infrastructure or utilities, this kind of public-minded leadership can also assist in securing government support, subsidies, or public-private partnerships, all of which have long-term strategic value. Over the long term, such backgrounds influence how firms perceive their social responsibilities, manage external risks, and adapt to evolving strategic decisions.

In conclusion, a regulatory or government background can offer unique advantages in navigating complex compliance environments and engaging with external stakeholders. However, these benefits must be balanced with efforts to encourage innovation, strategic thinking, and organisational dynamism. As shown in Figure 12, time-lagged variables are not significant for regulatory or government background on ESG performance. To maximise long-term impact, firms should ensure that public-sector experience is complemented by private-sector insight.

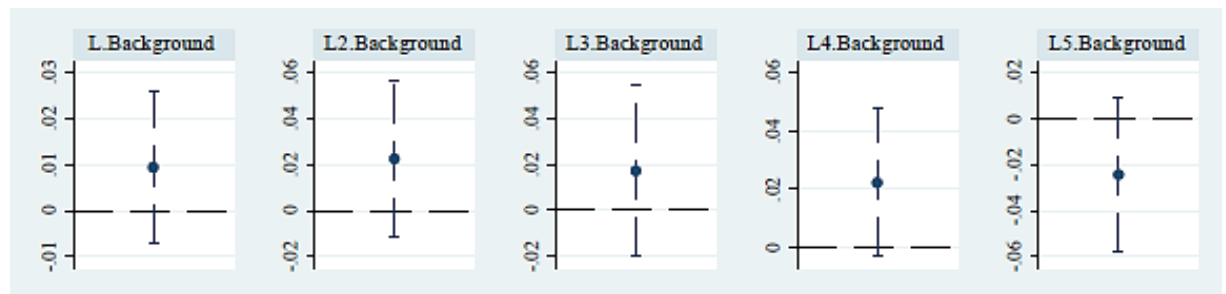


Figure 12 Effects of lagged regulatory or government background variable on ESG performance

Source: Printed from Stata software

Gender

Gender diversity in top management team is often viewed as a hallmark of progressive governance and inclusive corporate culture. In many cases, the presence of women in senior positions has been associated with enhanced stakeholder engagement, broader perspectives, and stronger commitments to Environmental, Social, and Governance (ESG) objectives. However, empirical evidence suggests that, under certain conditions, increased female representation at the executive level may correlate with weaker ESG scores. This counterintuitive outcome warrants a careful and contextualised interpretation. A possible explanation lies in the symbolic or marginal nature of female participation in many top management teams. In environments where gender diversity initiatives are driven more by external pressure than by a genuine commitment to inclusion, female executives may be appointed to meet regulatory or reputational expectations rather than to shape corporate strategy. In such cases, these individuals may lack the influence, authority, or organisational support necessary to drive substantive change in ESG practices. As a result, the potential benefits of gender diversity remain unrealised, and the firm may experience weaker ESG performance despite appearances of progressiveness.

Additionally, women in top management teams often face greater scrutiny, cultural resistance, or isolation within predominantly male leadership structures. These dynamics can limit their ability to push forward complex strategic decision-making process, particularly

when such efforts are perceived as peripheral to the firm's core financial objectives. Where ESG remains a secondary priority within the corporate hierarchy, female leaders may find it difficult to gain traction for long-term sustainability strategies, especially in the absence of institutional commitment. It is also conceivable that, in certain organisations, women are elevated to leadership roles during times of organisational strain—an occurrence often described as the “glass cliff” phenomenon. In such cases, the negative ESG outcomes observed may reflect broader governance or performance challenges rather than being directly attributable to gender itself. If female executives are disproportionately placed in roles with limited resources or decision-making power, their capacity to influence strategic decision-making process will naturally be constrained.

Moreover, gender diversity alone does not guarantee a robust approach to sustainability. Strategic decision-making process depends on a combination of strategic vision, organisational culture, and resource allocation. Simply increasing the number of women in executive roles—without embedding ESG into the firm's strategic and operational frameworks—may have little bearing on long-term sustainability outcomes. In fact, an overreliance on gender representation as a proxy for good governance may distract from more substantive reforms. Empirical evidence also suggests that female executives are more likely to support long-term planning and risk-averse strategies. In the context of ESG, this often means greater emphasis on ethical conduct, stakeholder accountability, and sustainability reporting. Women in leadership roles have been shown to advocate for stronger environmental compliance, greater transparency in governance practices, and more equitable workplace policies. These contributions can significantly enhance a firm's ESG credentials and resilience in the face of regulatory or reputational risks. However, gender representation alone is not sufficient to guarantee improved outcomes. The presence of women in executive roles must be substantive and influential rather than symbolic. Tokenistic appointments—where female executives hold nominal roles without real authority—are unlikely to produce meaningful shifts in organisational priorities. Such practices may invite scepticism and undermine genuine efforts toward diversity and inclusion. Although lagged variables are not significant, gender diversity in top management team offers substantial long-term effects for

Chapter 4. The Effect of Top Management Team Characteristics on Strategic Decisions Concerning ESG organisations seeking to enhance their ESG performance and strategic adaptability (shown in Figure 13). By fostering inclusive leadership, improving decision quality, and aligning with societal expectations, gender-balanced executive teams contribute to more sustainable, ethical, and resilient enterprises. Achieving these outcomes requires more than representation—it demands structural inclusion, cultural change, and a commitment to equality at all levels of the organisation.

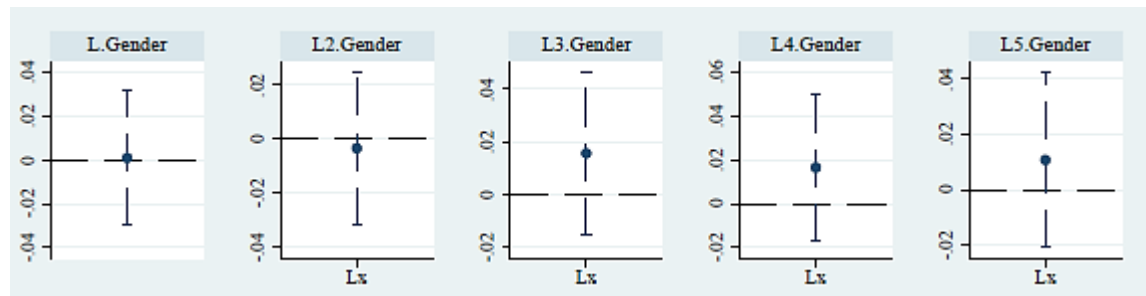


Figure 13 Effects of lagged gender variable on ESG performance

Source: Printed from Stata software

4.4.4 Robustness Tests

To further consolidate the reliability of the relationship between strategic decision-making process and top management team characteristics, this part conducts robustness tests using methods including changing the estimation method and replacing ESG explanatory variables.

Changing the estimation method

A Tobit model is appropriate when the strategic outcome is a limited continuous measure with a pile-up at a boundary. A mixed Tobit model is well suited where the dependent variable is censored and the data are longitudinal or hierarchical, so this part changes the estimation method of the mixed Tobit model. For consistency and comparability, the ESG data are the same from Bloomberg in both models. Model fit is reasonably good in multidimensional fixed-effects linear model, achieving a somewhat higher explanatory power than that in mixed Tobit model from the result of R-sq. The 2SRI model shows an adjusted R-squared of about 0.798, meaning it explains 79.8% of the variance in ESG scores. This relatively high R^2 reflects the inclusion of firm-specific fixed effects, which capture a

lot of the constant differences in ESG performance across companies. The mixed Tobit model (results shown in Table 9) reports a Pseudo R-squared (0.26) that is somewhat lower (in the moderate range) – this is typical, since Tobit (a limited dependent variable model) and multidimensional fixed-effects linear model use different fit metrics that are not directly comparable. The Tobit's log-likelihood and pseudo- R^2 indicate a decent model fit, but generally the fixed-effects model fits the data slightly better in terms of variance explained. This makes sense because the multidimensional fixed-effects linear model can use a separate intercept for each firm (drastically reducing unexplained variance due to firm-level idiosyncrasies), whereas the mixed Tobit has a single combined structure for all firms (with a random intercept distribution).

In practical terms, after accounting for the fixed firm differences, the multidimensional fixed-effects linear model edges out the mixed Tobit model in terms of its fit. The mixed Tobit model's fit is still acceptable – it captures a substantial portion of ESG variation, just not as completely as the multidimensional fixed-effects linear model with its multiple fixed effects. It's worth noting that ESG scores are bounded (censored) variables, and the Tobit model is designed to account for that censoring. In this dataset, ESG rates are bounded between certain scores (-5 to 5). The mixed Tobit model's decent fit and similar findings suggest that censoring was not severely distorting the OLS estimates. The multidimensional fixed-effects linear model's higher R^2 also partly reflects the inclusion of those fixed effects dummies (which soak up variance but don't provide explanatory insight into which factors drive ESG). Overall, both models appear to capture the data well, with the multidimensional fixed-effects linear model having a higher nominal R^2 (due to its finer-grained control of firm heterogeneity) and the mixed Tobit model providing a robustness check that the results hold when considering ESG's limited range.

For most variables, the coefficients of both the mixed Tobit model and multidimensional fixed-effects linear model are of the same order of magnitude, indicating stable effects across models, though there are a few meaningful differences. As the Table 9 shows, the average education level of executives shows a positive coefficient in both models, but there are differences in magnitudes. In the multidimensional fixed-effects linear model it is 0.030,

while in the Tobit model it is around 0.132. Educational background shows statistically significant effects in both models, which means that this variable is consistently important predictors of ESG across both approaches. This consistency in significance boosts the confidence that these effects are real and not model dependent. Both models indicate that more executive remuneration is associated with lower ESG performance. The mixed Tobit model yields a larger coefficient (-0.064) than the multidimensional fixed-effects linear model (-0.010), though both are negative and significant. This suggests that between remuneration differences (captured in the mixed Tobit model) attribute a lower ESG benefit to higher remuneration.

Where differences do exist between the mixed Tobit model and multidimensional fixed-effects linear model results, they can be explained by the modelling approaches and the nature of the data. The multidimensional fixed-effects linear model estimates the impact of changes within the same firm over time (controlling for all time-invariant firm characteristics). For some variables, firm differences are sizeable, which the Tobit captures but the multidimensional fixed-effects linear model filters out. For example, team size showed a much larger effect in the mixed Tobit model. This suggests that firms with inherently larger management teams tend to have better ESG scores (perhaps because large teams are a feature of large firms with more resources for sustainability) – but when looking within a given firm, increasing the team by one member has a smaller effect. The mixed Tobit model's coefficient for team size reflects cross-company advantages of larger teams, while the multidimensional fixed-effects linear model's coefficient reflects the smaller marginal gains of growing a team within one company.

Table 9 Regression results of the mixed Tobit regression model

	Bloomberg ESG
Team size	0.180*** (0.016)
CEO Duality	-0.058 (0.094)
Age	0.279*** (0.012)
Educational background	0.132*** (0.009)
Executive tenure (time in position)	-0.080*** (0.014)
R&D functional track	-0.000 (0.011)
Remuneration	-0.064*** (0.013)
Total number of concurrent directorships held by the executive	0.052*** (0.009)
Regulatory or government background	0.067*** (0.012)
Gender	0.017 (0.012)
Control variables	Yes
Firm fixed effects	No
Year fixed effects	Yes
N	14253
Pseudo R-sq	0.2556
Chi-squared test	7760.64
Prob > Chi-squared	0.0000
=** p<0.10	** p<0.05
	*** p<0.01"

Standard errors in parentheses

Replacing explanatory variables

This part presents the results of a robustness analysis conducted by replacing the Bloomberg ESG score with the Huazheng ESG indicator from Sino-Securities Index Information Service (Shanghai) Co. Ltd in the original regression model, to examine the relationship between top management team (TMT) characteristics and firms' strategic decisions in the context of environmental, social, and governance (ESG) performance. The rationale for this substitution lies in the need to assess the stability and generalisability of the findings when the measurement of ESG is altered, particularly when transitioning from a globally recognised data source to a domestically oriented one. By doing so, this analysis (the results are reported in Table 10) accounts for the potential influence of data provenance and construction on the interpretation of managerial drivers of strategic decision-making process concerning ESG.

To mitigate bias from time-invariant unobserved heterogeneity across firms, a two-step residualisation inclusion (2SRI) procedure is also applied. First, firm fixed effects are produced, demeaning each variable around its company-specific mean so that all between-firm, time-invariant variation is removed; the resulting estimates are based on within-firm deviations (reported in column 1, Table 10). Second, using these firm-centred residuals, year effects are absorbed to purge aggregate shocks—macroeconomic cycles, sector-wide regulatory changes, or market-wide sentiment—that affect all firms simultaneously (reported in column 2, Table 10). This approach ensures identification rests on within-firm, over-time variation net of economy-wide disturbances. The F-statistic of 45.13 with a small p-value (0.0000) means that independent and control variables add explanatory power beyond the fixed effects. The regression model using the Huazheng ESG data explains approximately 63.7% of the variance in the dependent variable (adjusted $R^2 = 0.584$), a moderately strong explanatory power, although lower than that of the Bloomberg-based model ($R^2 = 0.799$). The sample size is increased in the Huazheng specification ($N = 21,874$ versus 14,231 in the Bloomberg model), which may influence statistical significance levels. Despite these differences, the overall structure and composition of the regression model remain consistent, allowing for meaningful comparisons across both specifications.

Executive Tenure shows similar results. Executive tenure has a statistically significant and positive effect in the Huazheng regression (0.104, $p < 0.01$), while the Bloomberg coefficient is positive but marginal (0.030, $p < 0.05$). This suggests that longer-serving executives in the domestic context may leverage their organisational and regulatory experience to advance ESG objectives. In contrast, the global literature often associates long tenure with inertia or entrenchment. The difference may thus reflect a context in which stability and political embeddedness are considered advantageous for navigating ESG implementation. A particularly notable result emerges for educational background. In the Bloomberg model, education has a positive and highly significant effect (0.030, $p < 0.01$), indicating that more educated executives are more likely to lead ESG-aligned strategies. By contrast, the Huazheng model shows a negative but not significant coefficient (-0.013). This reversal may be attributed to differences in ESG assessment philosophy. Bloomberg's global standards place greater emphasis on human capital as a component of governance quality, whereas Huazheng's methodology prioritises tangible ESG outcomes and policy adherence, which are not necessarily correlated with academic degrees (Shen et al. 2023). ESG assessments from international and domestic agencies frequently diverge owing to differences in indicator coverage, weighting procedures, data sources, and the treatment of controversies. Evidence from China indicates weak concordance across providers, underscoring the need for caution when comparing or aggregating scores (Zhang and Geng 2025).

In addition, the difference between the regression results using Bloomberg and Huazheng ESG data also reflect the different emphasis placed on different indicators in foreign and domestic countries. Executives with R&D functional backgrounds are more positively associated with ESG strategy under the Huazheng model (0.075, $p < 0.01$) than under the Bloomberg model (0.001, not significant). This finding suggests that innovation-driven expertise is more strongly recognised as a driver of ESG performance in China, where the transition towards green technologies and sustainable products is a state priority. The result also indicates that technical managers may be more likely to appreciate and internalise the value of long-term investment in ESG initiatives. The effect of executive remuneration is insignificant under Huazheng (-0.003), in contrast with the Bloomberg model where it is

small but significant (-0.010 , $p < 0.05$). This disparity may imply that executive pay structures are less aligned with ESG performance incentives in domestic firms, or that ESG-linked compensation is not yet a common practice in the Chinese corporate governance environment. The number of concurrent board roles held by an executive is significant in the Huazheng regression (-0.021 , $p < 0.01$), while it has a small but less significant negative effect in the Bloomberg model (-0.014 , $p < 0.05$). The domestic ESG framework appears more sensitive to potential over-commitment of directors, while international frameworks may be less critical of multitasking among senior managers, perhaps due to different cultural norms regarding role accumulation.

Several firm-level controls perform as expected. Enterprise size and financial leverage are both significantly negative in the Huazheng model, suggesting that larger and more indebted firms may encounter more barriers to implementing ESG strategies. These results are largely consistent across both models. The intercept term in the Huazheng model is notably large and significant (4.189 , $p < 0.01$), indicating a high baseline level of ESG performance unexplained by observed managerial and firm-level characteristics. This may point to the influence of external factors, such as industry norms or policy incentives. The regression analysis using Huazheng ESG scores offers valuable insights into the robustness of the observed relationships between top management team characteristics and strategic decisions. While several findings—such as the positive effects of executive tenure, R&D experience, and remuneration—remain consistent, notable divergences also emerge. Educational background and remuneration, which are significant under Bloomberg ESG, are either reversed or rendered insignificant under the Huazheng framework. These differences underscore the influence of ESG evaluation methodologies on empirical outcomes. The analysis confirms that top management team characteristics do influence strategic ESG decisions, but the magnitude and direction of these effects can vary depending on the institutional context and the criteria embedded within the ESG rating system. Researchers and policymakers should therefore exercise caution in generalising results across ESG datasets and consider the broader regulatory and cultural context within which firms operate.

Table 10 Regression results of the effect of top management team characteristics on strategic decisions (Using ESG variables from Sino-Securities Index Information Service)

	(1) Huazheng ESG	(2) Huazheng ESG
Team size	0.040** (0.015)	0.048*** (0.014)
CEO Duality	-0.050 (0.034)	-0.049 (0.034)
Age	0.056** (0.026)	0.066*** (0.015)
Educational background	-0.015 (0.015)	-0.013 (0.015)
Executive tenure (time in position)	0.051 (0.056)	0.104*** (0.030)
R&D functional track	0.075*** (0.014)	0.075*** (0.013)
Remuneration	-0.002 (0.012)	-0.003 (0.011)
Total number of concurrent directorships held by the executive	0.018 (0.011)	0.021*** (0.006)
Regulatory or government background	-0.029** (0.012)	-0.026* (0.013)
Gender	-0.021 (0.013)	-0.019 (0.012)
Financial leverage (debt ratio)	-0.347** (0.166)	-0.362** (0.171)
R&D Expense/Revenue	0.144 (0.122)	0.122 (0.122)
Profit Ratio	-0.004 (0.004)	-0.004 (0.004)
Ratio of independent directors	0.087*** (0.010)	0.095*** (0.010)
Board size	0.044** (0.016)	0.058*** (0.013)
Control variables	Yes	Yes
Firm fixed effects	Yes	Yes
Year fixed effects	No	Yes
N	21874	21874
Adj R-squared	0.578	0.584
F value	49.49	45.13
="* p<0.10 ** p<0.05 *** p<0.01"		

Standard errors in parentheses

4.5 Summary

China provides a particularly rich and distinctive context for examining top management team characteristics and their influence on strategic decision-making. As the world's second-largest economy and host to a growing number of competitive firms, China represents a dynamic institutional environment that diverges markedly from those typically explored in Western corporate governance research. Its unique blend of market-driven reforms, enduring state influence, evolving regulatory structures, and deeply entrenched political connections creates a multifaceted backdrop against which executive behaviour must be understood. In the context of China, previous research on top management team characteristics and top management team characteristics often faces limitations due to short sample periods or narrow datasets, which can be adjusted for studies that focus on Chinese listed companies.

This thesis adopts a long year period (2009-2023) for its empirical analysis, covering all Chinese firms listed on the stock exchanges, for which comprehensive data is available. A linear panel specification with multi-dimensional fixed effects links ESG outcomes to top-management team (TMT) characteristics. The findings underscore the importance of executive attributes for ESG performance. For example, longer tenure also aligns with improved ESG results, suggesting that experienced leaders convert institutional trust and continuity into effective non-financial strategies—an effect especially plausible in China. Instrumental variable estimates employ ownership regimes and plausibly exogenous ownership shocks. Diagnostics indicate evidence for TMTs variables exogeneity and suitability of multidimensional fixed-effects linear model application. Consequently, China offers a valuable setting for extending and testing theoretical models—such as upper echelons theory, agency theory, and resource dependence theory—in ways that accommodate institutional complexity and variation.

4.5.1 For Companies

The regression evidence yields a set of practicable insights for firms aiming to strengthen environmental, social, and governance (ESG) outcomes by refining leadership arrangements and managerial processes. Although the estimates should be interpreted as conditional

associations rather than definitive causal effects, they nonetheless indicate which levers most plausibly align with improved sustainability performance and where managerial effort is likely to yield the greatest returns. Four patterns are central: higher educational attainment among senior executives is positively associated with ESG performance; longer executive tenure is likewise positively related; multiple concurrent external directorships are negatively associated; and higher total remuneration displays a negative association suggestive of incentive misalignment. Several other top-management team (TMT) attributes show no discernible relationships in the baseline specification, implying that headcount changes or single-dimension demographic shifts are unlikely, on their own, to alter sustainability outcomes.

Continuous professional development can be structured according to the empirical results. Boards may mandate annual training for directors and senior managers, establish internal academies or partner with universities and professional bodies, and require evidence that learning is applied in practice. Emphasis ought to be on demonstrable competence and judgement rather than credentials for their own sake, with training linked to verifiable improvements in processes, controls, and materiality assessments. The positive relation between tenure and ESG performance suggests that organisational memory, internal trust, and continuity facilitate multi-period implementation of non-financial strategy. Leadership continuity appears to support the multi-year execution of non-financial strategy. Boards can operationalise this insight by adopting medium-term ESG roadmaps with clear milestones, assigning oversight to a standing committee, and scheduling regular board and committee reviews to institutionalise learning beyond individual officeholders. At the same time, safeguards against entrenchment are necessary: periodic independent evaluations, external assurance of material indicators, and calibrated board refreshment policies help preserve constructive challenge while retaining the benefits of accumulated organisational memory.

The negative association between multiple external directorships and ESG performance is consistent with limits on managerial attention and the possibility of conflicts of interest. Governance codes should therefore clarify expectations regarding outside commitments for executive directors and require transparent disclosure of the time demands associated with

each role. Where cross-appointments arise within corporate groups or among related parties, robust conflict-management procedures—such as recusal rules and independent scrutiny of sustainability-critical decisions—can protect decision quality.

The negative association between the total number of concurrent directorships held by the executive and ESG performance is consistent with binding constraints on managerial attention and the risk of conflicts of interest. Time, rather than intention, is often the scarce resource. Firms should therefore set clear internal limits on external mandates for executives and executive directors, considering the complexity of their principal responsibilities and the intensity of ongoing strategic programmes. Where outside appointments are retained for strategic reasons, companies should disclose expected time commitments, identify conflict-sensitive areas, and adopt recusal protocols for sustainability-critical decisions. Within corporate groups or related-party networks, muted challenge is a particular concern; enhanced independent scrutiny—via a lead independent director or an expanded audit committee remit—can mitigate decision-quality risks. An annual capacity and conflicts attestation, supported by a register of mandates maintained by the company secretary, promotes discipline and transparency.

The negative relationship between total pay and ESG performance points to potential misalignment between compensation design and sustainable value creation. The remedy is not simply to add “ESG” into bonus scorecards, but to design non-financial metrics that are material, auditable, and strategy-relevant, each with defined thresholds, targets, maxima, and transparent payout slopes. These measures should sit within a balanced scorecard alongside financial metrics so that trade-offs are explicit. Deferral, malus, and clawback provisions curb short-term risk-shifting and opportunism; remuneration reports should explain metric selection, assurance arrangements, and year-on-year adjustments. Committee capability also matters: remuneration (and where relevant sustainability) committees require appropriate expertise and independent advice so that design choices are anchored in materiality and risk rather than public-relations convenience.

The absence of robust associations for several other TMT variables—team size, CEO duality, age, R&D functional track, government background, and gender—in the baseline model

offers its own managerial lesson. Structural adjustments such as splitting the chair and CEO roles, or altering spans of control, may be desirable for other governance reasons, but firms should not expect such changes, in isolation, to deliver measurable ESG gains. Likewise, one-off demographic interventions unconnected to capability, incentives, and process reform are unlikely to move outcomes. The practical priority is substance over form: build the skills, routines, controls, and accountability mechanisms that translate ambition into delivery.

Embedding these insights into everyday governance requires disciplined processes. Boards can set a regular cadence for ESG oversight—at minimum, twice-yearly strategy and risk reviews—supported by high-quality management information that integrates financial and non-financial indicators. Executive accountabilities for each priority area should be explicit, with internal audit or an equivalent function testing the design and operating effectiveness of non-financial controls. Investment in data systems and limited assurance for a focused set of core metrics improves decision-usefulness and reduces the temptation to optimise for ratings rather than outcomes.

4.5.2 For Policymakers

The evidence indicates that higher levels of education among senior executives are associated with stronger ESG outcomes, implying that capability at the top of the organisation materially shapes the design, implementation, and reporting of sustainability strategy. A credible policy response is to raise baseline competencies in ESG for directors and senior managers through accredited, practice-oriented programmes, mandatory continuing professional development, and competency frameworks embedded in director and senior-leadership qualification standards. Targeted capacity-building in high-impact sectors is likely to deliver the greatest marginal gains where capability constraints are binding.

The disclosure architecture should make the alignment between leadership attributes and sustainability delivery observable. Standardised reporting of executive education, tenure, external mandates, and role responsibilities enables analysts to judge whether capability and managerial attention are commensurate with stated ESG ambitions. Wider use of

independent assurance for core non-financial indicators, coupled with clearer data lineage, improves reliability and limits incentives to optimise for scores rather than real outcomes. Interoperability with international reporting baselines—while accommodating China-specific metrics—can help mitigate rating divergence and facilitate cross-border comparability. Implementation can proceed in stages without imposing rigid timelines. In the near term, guidance on outside commitments and remuneration disclosure can be issued, director development modules piloted, and reporting of top-management attributes standardised. Over the medium term, assurance coverage can be extended, competency matrices embedded in listing rules on a comply-or-explain basis, and leadership data mandated. Longer-term priorities include evaluating reforms, refining rules where gaming is detected, and deepening alignment with international baselines to reduce frictions for cross-border capital.

4.5.3 For Domestic and International Investors

From a portfolio-construction perspective, leadership attributes can be encoded as investable tilts or as risk controls. Within-industry, market and size-neutralised signals based on education (positive), tenure (positive within a moderate range) and concurrent directorships (negative) can be combined with traditional quality metrics. To avoid confounding, investors should condition on size, liquidity and cash balances—variables that often correlate with both leadership profiles and ESG outcomes—and employ stability screens that down-weight issuers with volatile disclosures or frequent leadership churn. Back-tests should report both immediate and time-lagged performance, reflecting the persistence of sustainability programmes.

Domestic investors can exploit informational advantages in interpreting these patterns within the Chinese regulatory and disclosure context. Where sectoral policy, local enforcement and state mandates shape feasible pathways, combinations of capability and tenure may be particularly predictive of delivery because execution often depends upon navigation of administrative processes and the maintenance of multi-year programmes. Engagement can accordingly prioritise strengthening executive competence, stabilising programme ownership across budgeting cycles, and embedding auditable, strategy-relevant non-

financial metrics within remuneration. Domestic stewardship can also press for pragmatic limits on external mandates for executives, accompanied by transparent disclosure of time commitments and explicit recusal protocols in related-party settings.

International investors face the added complication of divergence between domestic and foreign ESG ratings, which can depress attention and valuations. In this setting, top-management attributes offer a complementary lens that is less sensitive to methodological variation across providers. A leadership profile that combines relevant education, measured continuity and restrained external mandates is a transferable indicator across taxonomies. Global investors should triangulate domestic and international ratings with directly observable governance inputs—board workloads, remuneration design and competence mix—whilst placing greater weight on independently assured, outcome-oriented indicators to avoid over-reliance on any single score.

In stewardship, the findings translate into a compact engagement agenda. Boards should be asked to demonstrate that they possess the requisite competence mix for material sustainability topics, that programme ownership survives leadership transitions, that executive workloads are realistically bounded, and that remuneration is linked to specific, auditable, and proportionate non-financial measures. Voting policies can be aligned to these expectations: oppose additional mandates for already stretched executive directors; escalate where pay metrics are vague, unaudited, or dominated by short-term financials; and seek enhanced disclosure of director time commitments and conflict-management procedures in corporate groups. International investors should supplement these asks with calls for machine-readable disclosure of TMT attributes and assurance statements to facilitate cross-border comparability.

Stewardship by investors and supervisory practice can translate these insights into engagement and voting. Dialogue with boards may focus on the capability mix, leadership stability for multi-year programmes, the management of external commitments among key executives, and the credibility of ESG-linked remuneration. Voting policies can be conditioned on observed misalignment—such as opposing the re-election of busy outside directors or the remuneration committee chair where design quality is weak. Supervisory

authorities can reinforce these expectations through proportionate comply-or-explain disclosure without prescribing a single template.

Risk management likewise benefits from these signals. Busy outside directors and weakly aligned pay are common precursors of operational lapses, controversy risk and governance failures that erode franchise value and raise financing costs. Firms exhibiting these risk markers warrant tighter monitoring, explicit engagement milestones or position limits. Conversely, credible demonstrations of capability, continuity and remuneration alignment justify patience during multi-year transitions, particularly in sectors where decarbonisation, labour-standards remediation or product redesign requires extended time horizons. Because sustainability outcomes are persistent, investors should evaluate both immediate responses and longer-horizon trajectories, using rolling windows and event-study diagnostics around leadership and pay reforms.

Chapter 5. Subgroup Analysis of TMT characteristics on ESG Performance

The strategic capacity of top management teams may be influenced by ownership structure. Panel data and fixed effects modelling provide a robust analytical framework for examining these relationships, allowing for dynamic, longitudinal insights into the evolving nature of corporate leadership and strategy in Chinese listed firms. This approach ensures that the findings of this thesis are not only empirically grounded but also contextually and institutionally informed—offering valuable contributions to both academic theory and managerial practice in the realm of strategic decision-making. For example, educational background shows similar direction on subgroup analysis but educational background shows the opposite.

5.1 Introduction

A key feature of Chinese corporate governance is the coexistence of private enterprise with enterprises that have significant state ownership. Ownership structure can be understood in two main ways: the concentration of ownership among shareholders and the identity of the owners. Chinese leading firms, particularly in strategic sectors such as banking, telecommunications, and energy, are state-owned or state-controlled. Executives within state-controlled entities often have previous experience within government agencies or regulatory bodies, demonstrating the broader political embeddedness of corporate leadership. This context makes China especially pertinent for exploring the implications of executives' regulatory or governmental backgrounds for firm strategy. Political capital may influence access to resources, policy favourability, and risk tolerance, positioning this characteristic as central to strategic agency in Chinese firms. It is therefore important to know whether the observed impact of TMT characteristics on ESG performance varies across firms based on ownership structure. Therefore, analysis is conducted based on the nature of property rights (state-owned vs. non-state-owned firms).

It is commonly argued that concentrated ownership helps mitigate the agency problem, where the interests of owners and managers diverge. In firms with concentrated ownership, owners are often also the managers, which reduces the potential for conflicts of interest and

is therefore expected to lead to better firm performance (Jensen and Meckling 1976). Leadership structures in Chinese organisations also diverge from those in Anglo-American contexts. CEO duality, whereby the chief executive also serves as the board chair, is widespread, particularly within state-owned enterprises (SOEs) (Ding et al. 2014). This concentration of authority has implications for both agility and accountability, making it a vital governance variable.

For example, executive compensation in Chinese firms is shaped not only by performance metrics but also by political constraints and social norms. Remuneration practices, especially in SOEs, tend to be relatively modest and subject to regulatory oversight, contrasting with high-powered incentive systems in Western corporations. This distinction enables researchers to examine how compensation influences managerial motivation and decision-making under different institutional logics. Utilising panel data increases the statistical power of the analysis, offering more degrees of freedom and reducing the likelihood of multicollinearity, especially when testing interaction effects or difference across ownership types.

5.2 Strategic Decision-making Mechanisms in the Chinese context

5.2.1 Background of the Chinese Environmental Policy

Since the late 20th century, China has placed increasing importance on reducing carbon emissions, enhancing energy efficiency, and fostering the development of clean technologies (Wang et al. 2004). This section examines the ways in which senior managers and shareholders interpret and respond to environmental policy and evaluates how their strategic choices influence key dimensions of corporate performance, including financial outcomes, operational effectiveness, competitive positioning, and organisational reputation. For instance, some firms adopt a proactive stance, viewing regulatory demands as an opportunity for innovation and strategic differentiation, whereas others respond more defensively, concentrating on cost containment and meeting only the minimum requirements necessary for regulatory compliance (Wang et al. 2023). China's environmental policy has emerged as a critical component of its development strategy, particularly as the country strives to balance

its rapid industrialization with the need for environmental sustainability (Lin 2013). Initially focused on addressing local pollution and resource depletion, these policies have evolved to align with global environmental goals, such as those set out in the Paris Agreement. These measures aim to shift China from a resource-intensive economy to a more sustainable model, promoting renewable energy, waste reduction, and climate-friendly innovations in sectors such as transportation and energy.

The economic impact of Chinese environmental policies has been substantial. As the world's largest emitter of carbon dioxide, China's commitment to reducing emissions has influenced its economic trajectory in profound ways. In recent years, China has become a global leader in renewable energy, with substantial investments in wind and solar energy infrastructure. This shift has not only contributed to meeting domestic energy demands but has also positioned China as a key player in the global green energy market (Hu et al. 2021). Policies encouraging the use of electric vehicles, green finance, and energy-efficient technologies are helping the country diversify its economy beyond oil and coal, leading to a growing green economy that presents both environmental and economic opportunities. China's GDP growth has continued robustly even as the country transitions to cleaner energy sources, indicating that environmental sustainability and economic expansion can coexist, especially when green industries are strategically prioritized.

Corporate Social Responsibility Theory provides another lens through which to understand the impact of China's environmental policies on firm behaviour. With rising public awareness of environmental issues, companies are under pressure not only to meet regulatory requirements but also to demonstrate their commitment to sustainability through corporate social responsibility initiatives (Nie and Wang 2024). Firms that proactively integrate environmental concerns into their operations—whether through reducing emissions, improving waste management, or enhancing supply chain sustainability—can improve their market standing, attract eco-conscious consumers, and secure investment from green funds. corporate social responsibility practices that align with government policies not only help firms comply with regulations but also enhance their legitimacy and brand value in a market that increasingly values environmental responsibility.

Transaction Cost Economics also plays a critical role in understanding the cost dynamics of adapting to China's environmental regulations (Lin et al. 2022). Firms that anticipate and invest in compliance early on can reduce the long-term transaction costs associated with legal penalties, environmental damage, or compliance failures. By proactively adopting sustainable practices, businesses can lower the costs associated with non-compliance, such as fines and damage to their reputation. Additionally, firms that adopt green technologies and improve energy efficiency may incur higher upfront costs but benefit from reduced operational costs in the long run (Jin et al. 2025). Transaction Cost Economics highlights that firms which integrate these costs into their strategy and align with China's environmental policies will reduce uncertainty and improve operational efficiency, thus enhancing overall firm performance. Chinese environmental policies have far-reaching implications for the country's economy and businesses. By utilizing frameworks such as Corporate Social Responsibility Theory and Transaction Cost Economics, firms can adapt to the evolving regulatory environment while reaping the benefits of sustainability-driven innovation. The shift towards a green economy offers firms new opportunities for growth, reduced operational costs, and enhanced market competitiveness. Companies that can successfully integrate environmental sustainability into their operations will be well-positioned to thrive in China's rapidly transforming economy.

5.2.2 Political affiliations

This part explores the internal strategic decision-making mechanisms under cognitive-based perspective and their direct impact on firm performance. It discusses how these mechanisms function to align management actions with shareholder interests, enhance decision-making processes and affect firm performance. Cognitive filters act as interpretive frameworks that shape how executives perceive governance challenges and external pressures (Cohen and Levinthal 1990). This part also reviews empirical studies that have examined these relationships, providing insights into the effectiveness of various internal governance practices and firms' performance in different contexts.

The integration of sustainability into Chinese firms' business models is largely driven by the government's increasing enforcement of environmental regulations (Chen et al. 2021).

Companies in China are actively developing new competencies to comply with the stringent environmental requirements. These capabilities include adopting cleaner technologies, improving energy efficiency, and aligning business practices with regulatory demands. Firms that are able to adapt to these changes and reconfigure their resources accordingly gain a competitive advantage in the market, while those that fail to comply may face significant penalties, reputational damage, and higher operational costs. The ability to adapt to these evolving environmental policies is crucial for sustaining competitive advantage in an increasingly regulated market.

The identity of owners significantly affects decision-making—institutional investors often focus on financial returns, family-owned businesses may prioritise stability and legacy, while government-controlled enterprises may emphasise broader policy objectives (Panousi and Panikolaou 2012). The way top management teams interpret these ownership structures influences their governance decisions and strategic direction. The role of ownership concentration is often examined through the lens of Institutional Theory, which argues that the institutional environment shapes organizational behaviour. In countries with strong shareholder protections, ownership is typically more dispersed, allowing investors to diversify their portfolios. Conversely, in countries with weaker shareholder protections, ownership tends to be more concentrated, often in the hands of a few large investors or government entities. The identity of owners is crucial in this context, as different types of owners may prioritize different objectives. Government owners may pursue political goals, which can lead to inefficiencies and a loss of shareholder value while family owners might focus on long-term stability and control, sometimes sacrificing short-term profitability. These varying objectives underscore the need to differentiate between owner types when assessing the relationship between ownership and firm performance.

The strategic choices made by firms are shaped by the interaction of top management team characteristics, cognitive biases, and governance frameworks. Ownership concentration and board composition play a pivotal role in determining corporate strategies, particularly concerning risk management, regulatory compliance, and long-term investments (Miller et al. 1998). These mental models influence how leadership teams assess ownership

concentration and board structures. For instance, in jurisdictions with strong investor protections, dispersed ownership allows for greater market participation, whereas in countries with weaker regulatory frameworks, ownership is often concentrated among a few dominant shareholders, such as state entities or institutional investors. Ownership structure and the board of directors are central components of corporate governance mechanisms that significantly influence firm performance. Ownership structure refers to the distribution of ownership among shareholders, including their rights to vote, receive dividends, and control decisions. The board of directors, responsible for overseeing and guiding the organization's strategic decisions, plays a crucial role in ensuring these decisions align with shareholder interests and organizational goals. According to Agency Theory, these governance mechanisms are designed to mitigate conflicts of interest between shareholders and managers, addressing agency problems that may arise when managers' interests diverge from those of shareholders.

Organisational performance is shaped by the strategic choices informed by top management team decision-making processes and governance structures (Gavetti and Levinthal 2000). Firms that effectively align their governance mechanisms with executive expertise and institutional settings tend to enhance long-term stability, legitimacy, and competitive positioning. However, leadership entrenchment or inflexible decision-making can lead to inefficiencies, misalignment with shareholder priorities, and diminished stakeholder trust. The effectiveness of governance structures depends on how well top management teams navigate institutional constraints, ownership complexities, and board dynamics. Further complicating the relationship between ownership and firm performance is the presence of state-owned businesses, which represent a significant portion of firms, particularly in regions like China.

State ownership leads to unique behaviours and objectives that may not always align with maximizing shareholder wealth. While some argue that state owners pursue socio-emotional goals, such as maintaining control and legacy, which can come at the expense of financial performance (Jensen and Meckling 1976), others find mix results (Bhakar et al. 2024). In China, state ownership is prevalent, with state-owned founders exerting significant influence

over decision-making processes, including the appointment of managers and directors (Ding et al. 2014). These ownership dynamics are essential to understanding firm performance in the region, as state-owned firms, may prioritize political and socio-emotional goals over maximizing shareholder wealth. Distinguishing between state and non-state ownership, as well as examining the role of state-owned firms, is crucial for understanding the unique governance challenges and ESG performance outcomes in these firms. By understanding the relationships between top management team characteristics, cognitive perspectives, strategic decision-making, and performance outcomes, organisations can refine governance models that support adaptability, resilience, and sustainable growth.

5.3 Subgroup Analysis

In empirical research, particularly within the fields of management, the assumption of homogeneity in behavioural or structural relationships across different groups is often untenable. One critical dimension of institutional variation is ownership structure. In economies such as China's, where both state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs) exist, it is analytically inappropriate to assume that all firms respond to internal and external stimuli in the same manner. This subsection presents the ownership subgroup analysis of the impact of TMT characteristics on firm ESG performance, discussing the significance, direction, and magnitude of the relationships.

5.3.1 Sample and Model Fit

The subgroup analysis serves as a crucial methodological tool to evaluate whether differences in ownership result in systematically different effects of explanatory variables on a given outcome of interest. The evaluation of model fit and sample size is critical in assessing the reliability, explanatory power, and generalisability of empirical findings. In the context of examining the impact of top management team characteristics on strategic decisions among Chinese listed companies, the results presented demonstrate notably robust model fit statistics and sizeable sample coverage, which lend credibility to the analytical framework employed.

Specifically, the coefficient of determination (R-squared) values for the two ownership-based subsamples—SOEs and NSOEs—are reported as 0.830 and 0.815, respectively (shown in Table 11). These values indicate that over 80 percent of the variance in the dependent variable is explained by the independent variables included in the regression models. Such high R-squared values are indicative of a well-specified model, suggesting that the characteristics of TMTs provide substantial explanatory insight into the strategic decision-making processes within both types of firms. While the R-squared statistic alone does not confirm causality or rule out omitted variable bias, its strength in this instance points to a meaningful relationship between executive traits and firm-level outcomes. The marginal difference in R-squared values between SOEs and NSOEs (0.830 vs. 0.815) may reflect subtle variations in the explanatory power of the included variables across ownership structures. In SOEs, the slightly higher model fit could be attributable to the more structured nature of organisational behaviour, where top management team characteristics—particularly those related to age, education, and team size—play a more deterministic role in shaping strategic outcomes. In contrast, NSOEs may operate within more dynamic and competitive environments, where additional factors such as market orientation, entrepreneurial behaviour, and external stakeholder influences could account for a portion of the unexplained variance.

Furthermore, the sample sizes for the two subsamples are considerable: 7,772 observations for SOEs and 6,436 for NSOEs. The use of such large samples enhances the statistical power of the models and increases the reliability of coefficient estimates. It also mitigates concerns about sample bias and enhances the potential for generalisation to the broader population of listed firms in China. The balance in sample sizes between the two groups ensures that comparative analyses are not distorted by unequal representation, which is essential when conducting subgroup analysis. The large sample sizes also facilitate the detection of statistically significant effects, even where the effect sizes may be modest. This is particularly relevant in the case of top management team characteristics such as age, gender, and educational background, where the magnitude of influence on firm strategy may be small but non-negligible. The precision of estimates derived from such a substantial dataset

provides a sound basis for interpreting observed patterns with confidence. The reported model fit statistics and sample sizes provide strong empirical support for the validity of the study's findings. The combination of high R-squared values and comprehensive coverage of listed firms allows for a robust understanding of how top management team attributes influence strategic choices in Chinese diverse corporate landscape.

5.3.2 Variable Comparison

In the context of corporate governance and strategic management, the composition and attributes of the top management team have long been recognised as critical determinants of firm behaviour and performance. The implementation of a subgroup analysis typically follows two primary approaches: interaction models and regression analysis. The interaction model incorporates a product term between the variable of interest and a binary ownership dummy, testing whether the slope of the relationship varies significantly by group. This part explores the effects of top management team of different ownership groups attributes on strategic decision-making across different ownership types, drawing attention to the dynamics that shape firm strategies in China's unique institutional environment. The theoretical grounding for analysing the characteristics of top management teams is provided by upper echelons theory, which contends that organisational outcomes mirror the values, cognitive orientations, and interpretive frameworks of senior executives. In China, however, the practical implications of this theory must be interpreted through the angels of political connections, state intervention, and evolving market mechanisms. As such, independent variables acquire varying degrees of salience depending on whether the firm operates within the state-controlled or private sector.

The empirical evidence underscores that the relationship between top management team characteristics and strategic outcomes is indeed different across ownership forms. For consistency, this part also adopts ESG measurement from international agencies. F-statistics of the two models are both with a small p-value (0.0000), which means that independent and control variables add explanatory power beyond the fixed effects. In Table 11, team size demonstrates a statistically significant negative association with strategic performance in

SOEs, while exhibiting no meaningful effect in NSOEs. This may reflect the bureaucratic inertia and coordination challenges prevalent in large state-owned entities, where an increase in managerial layers could impede swift decision-making. In contrast, private firms may be more agile, mitigating any adverse effects associated with a larger executive team. Similarly, the role of age appears to differ markedly between the two ownership types. In SOEs, older executives are associated with less favourable strategic outcomes, possibly due to their greater adherence to established routines and lower propensity for innovation. Conversely, age does not appear to exert a statistically significant influence within NSOEs, suggesting that flexibility and market-driven incentives may counterbalance any generational constraints.

Executive tenure also displays a divergent pattern. While it bears no significant influence in SOEs, it is positively and significantly associated with strategic performance in NSOEs. This may reflect the cumulative advantages of institutional knowledge and internal networks in private enterprises, where longer-serving executives are better positioned to align firm strategies with evolving market conditions. In SOEs, by contrast, rigid promotion systems and political appointments may dilute the benefits of tenure. The presence of an R&D functional track within the top management team reveals further asymmetry. In NSOEs, such experience is positively associated with favourable strategic decisions, indicating a greater orientation towards innovation and technology-driven growth. However, in SOEs, relationship is opposite, possibly due to limited incentives for innovation within rigid organisational structures. This suggests that while R&D expertise can be a valuable strategic asset, its utilisation is contingent upon the firm's institutional context and market responsiveness.

Other independent variables show similar direction on strategic decision-making process. Educational attainment emerges as another distinguishing factor. In SOEs, higher educational qualifications among top management teams are positively correlated with improved strategic outcomes, reinforcing the value placed on formal credentials within state-led governance frameworks. This is likely attributable to the bureaucratic emphasis on academic prestige and technical expertise as proxies for competence and loyalty. However,

the effect of education is less pronounced in NSOEs, where experiential knowledge and entrepreneurial orientation might outweigh formal academic training in influencing strategic choices.

Overall, the empirical findings from Table 11 demonstrate ownership difference in the way top management team characteristics influence strategic decisions concerning ESG across Chinese listed firms. These differences are not merely statistical artefacts but are grounded in the institutional and organisational divergences between state-owned and privately owned enterprises. The strategic implications of executive attributes are thus deeply contextual, shaped by governance structures, incentive systems, and regulatory environments. From a policy perspective, these findings carry significant implications. For SOEs, reforming internal governance to empower top management teams with relevant experience and reducing bureaucratic inefficiencies may enhance strategic agility. Encouraging merit-based appointments and adjusting incentive mechanisms could better harness the potential of the top management team. For NSOEs, the challenge lies in preserving market responsiveness while strengthening institutional capacity, particularly in navigating regulatory complexities.

At the firm level, board selection and succession planning should consider not only the individual qualifications of executives but also the compatibility of those traits with the ownership structure and strategic orientation of the enterprise. A one-size-fits-all approach to executive recruitment or incentive design may fail to capture the nuanced realities of the Chinese corporate landscape. In conclusion, the impact of top management team characteristics on strategic decisions in Chinese listed companies is profoundly shaped by firm ownership. SOEs and NSOEs operate under distinct institutional logics, and the strategic utility of executive traits varies accordingly. Understanding and leveraging this ownership difference is essential for both practitioners and policymakers seeking to improve corporate governance and strategic performance in China's evolving economic milieu.

Table 11 Subgroup analysis of the effect of top management team characteristics on ESG performance based on ownership categories

	State-owned Enterprises	Non-State-owned Enterprises
	Bloomberg ESG	Bloomberg ESG
Team size	-0.051*** (0.013)	0.002 (0.013)
CEO Duality	0.106 (0.089)	-0.000 (0.043)
Age	-0.032** (0.013)	0.017 (0.013)
Educational background	0.039*** (0.011)	0.025* (0.015)
Executive tenure (time in position)	-0.010 (0.017)	0.044** (0.017)
R&D functional track	-0.027*** (0.010)	0.039*** (0.012)
Remuneration	-0.013 (0.009)	-0.009 (0.010)
Total number of concurrent directorships held by the executive	-0.016 (0.011)	0.002 (0.008)
Regulatory or government background	-0.011 (0.009)	-0.004 (0.012)
Gender	0.009 (0.011)	0.001 (0.011)
Control variables	Yes	Yes
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	7772	6436
Adj R-squared	0.812	0.789
F value	3.46	3.47
=** p<0.10	** p<0.05	*** p<0.01"

Standard errors in parentheses

5.3.3 Chow Test

In the context of ownership, the subgroup analysis examines whether the structural relationship between a predictor (e.g. age, tenure, or remuneration) and an outcome (ESG performance) varies between state-controlled and privately controlled firms. The Chow Test

checks for marked divergences across subsamples by contrasting the residual sum of squares (RSS) from a pooled regression with those obtained from separate group-wise regressions. Rejecting the null hypothesis of parameter equality implies that the same model should not be uniformly applied to both groups, thereby justifying differentiated analytical and theoretical treatment. In the context of Chinese listed companies, a natural stratification arises between state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs), where the institutional environments are markedly distinct. Subgroup analysis is grounded in the recognition that the effect of an independent variable on a dependent variable may not be constant across subgroups within a dataset. The principal inferential objective is to ascertain whether the observed differences are statistically significant rather than attributable to random variation. In practice, this entails testing whether the parameters of a model estimated for one group differ significantly from those estimated for another. By means of rigorous statistical inference, the test furnishes a non-parametric, robust benchmark for subgroup analysis in ESG performance. Such testing can be carried out through formal statistical techniques, including interaction terms, subgroup analysis, and more formally, the Chow test. Empirical research in corporate governance increasingly seeks to uncover whether structural differences exist in how various firm characteristics influence strategic outcomes across different organisational contexts. One particularly powerful tool in examining such subgroup analysis is the Chow test, which provides a formal statistical method to determine whether regression coefficients differ significantly between subgroups, particularly when examining whether institutional settings such as ownership type moderate the link between managerial attributes and ESG performance. This section interprets these results in detail, summarises their inferential implications, and outlines recommended follow-up procedures to deepen the analysis.

The present analysis reports a Chow test with an F-statistic value of 25.185 and a corresponding p-value of $2.343e^{-28}$, offering strong statistical evidence to support parameter difference across the examined groups. The F-statistic serves as the primary measure in the Chow test and evaluates whether the residual variation in a restricted (pooled) regression model differs significantly from that in unrestricted (group-specific) models. In simpler

terms, it tests whether the regression coefficients across two groups (e.g., SOEs and NSOEs) are statistically indistinguishable. The value of 25.185 is considerably large in the context of standard F-distributions, implying a substantial divergence between the pooled and separate models. This high F-value suggests that the sum of squared residuals (SSR) from the pooled model is significantly greater than the combined SSRs from the group-specific models. Such a result points to a poor fit when the data are forced into a single model structure, indicating that important information about group-specific relationships is being omitted. In practical terms, this suggests that the regression relationships in the SOE subsample are statistically different from those in the NSOE subsample, and thus, modelling them together would lead to specification bias. The interpretation of this result is that the structural model underpinning the regression equations varies meaningfully between the two subsamples. Such a finding validates the need for ownership-sensitive modelling approaches, where the behaviour of managerial variables and top management team characteristics are assessed separately according to institutional context.

Accompanying the F-statistic is the p-value, which quantifies the probability that the observed divergence in model fit (as captured by the F-statistic) could occur under the null hypothesis. In this case, the p-value is $2.343e^{-28}$, a figure orders of magnitude smaller than conventional significance thresholds such as 0.001. Such a minute p-value strongly rejects the null hypothesis (H_0) that the regression coefficients across the two groups are equal. This means that the likelihood of observing such a large discrepancy between the models—if in fact no difference existed—is virtually zero. In statistical terms, this constitutes overwhelming evidence in favour of the alternative hypothesis (H_1): that the relationship between independent and dependent variables differs across the two ownership types. This inference carries both methodological and theoretical weight. It justifies the use of separate regression models for SOEs and NSOEs and implies that ownership structure fundamentally shapes the influence of managerial attributes on strategic outcomes. Ignoring such variation would obscure meaningful insights and potentially lead to invalid conclusions regarding causality or policy recommendations.

The immediate implication of these results is that researchers should not rely on a pooled

regression approach when analysing different groups. The rejection of coefficient homogeneity suggests that key explanatory variables may exert differing magnitudes or even directions of effect depending on ownership type. Coefficient plots with confidence intervals for SOEs and NSOEs side-by-side offers a clear and intuitive representation of where divergences occur and helps communicate findings to a broader audience (shown on Figure 14).

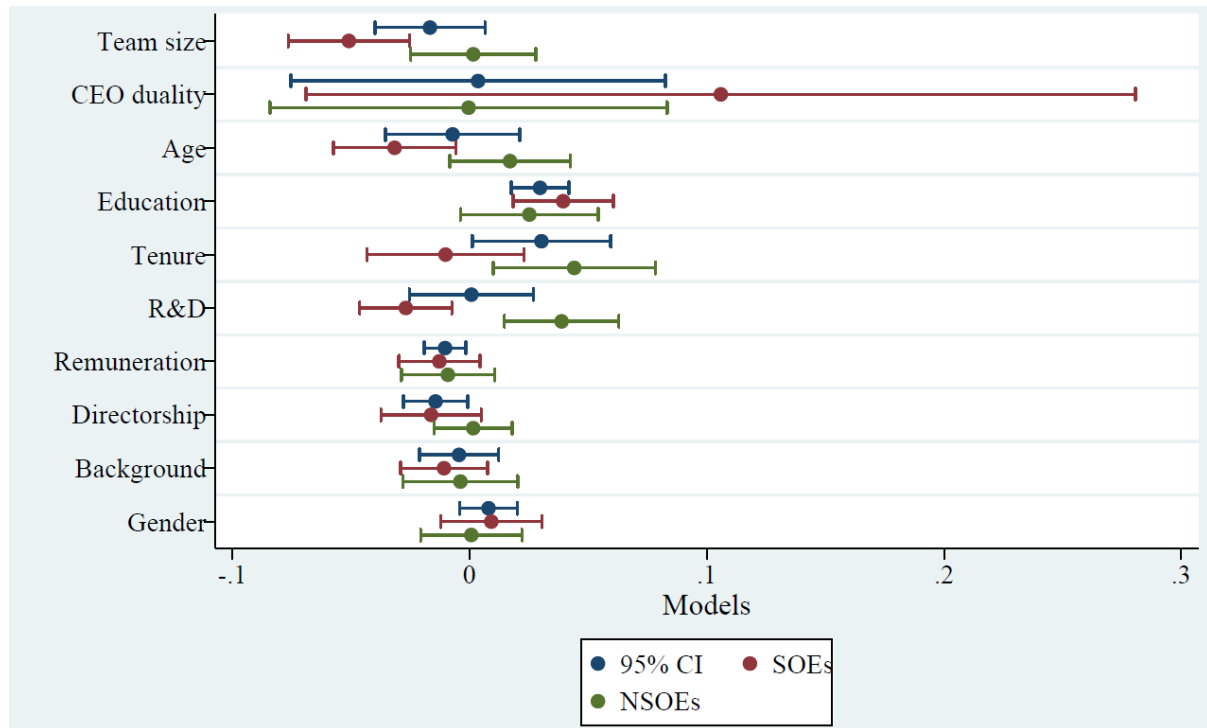


Figure 14 Subgroup analysis of the effect of top management team characteristics on ESG performance from the Chow Test

Source: Printed from Stata software

5.4 Discussion and Summary

This section presents the findings from the empirical analysis on ownership difference, evaluating the validity of the hypotheses concerning strategic decision-making and firm performance. It includes descriptive statistics, regression results, and discussions on the significance and implications of the observed relationships.

The main findings in this chapter are based on a comprehensive sample of all firms listed on China's stock exchanges from 2009 to 2023, for which data were available. Given that top management teams' information in Chinese firms does not have a centralized directory, the data collection process was particularly time-consuming and challenging. Furthermore, not all data could be retrieved, which limited the total available information. However, the data collection was successful for more than 5,147 listed firms. These firms span across all major Chinese stock exchanges, ensuring that the sample remains as representative as possible. This section interprets the empirical findings in light of the theoretical frameworks and existing literature. It discusses the implications for strategic decision-making mechanism practices in China, offers recommendations for policymakers and practitioners, and suggests directions to further explore the dynamics between strategic decision-making and firm performance.

5.4.1 Theoretical and managerial implications.

Ownership represents a fundamental organising principle in firms. SOEs are often characterised by political oversight, public mandates, and reduced exposure to competitive pressures, while NSOEs operate under market-oriented logics, entrepreneurial incentives, and relatively greater flexibility in managerial discretion. These structural differences manifest in the behaviour of top management teams (TMTs), corporate strategies, and performance outcomes. The results presented in the figure above offer visual and statistical evidence consistent with a Chow test, aimed at detecting parameter instability across these ownership categories. Empirical findings in corporate governance and strategic management gain analytical depth and explanatory power when they are interpreted through a robust theoretical lens. The observation that regression coefficients vary significantly between state-owned enterprises and non-state-owned enterprises, as evidenced by subgroup analysis such as the Chow test, calls for a theory-driven exploration. Rather than treating such statistical differences as isolated outcomes, they should be viewed as expressions of broader institutional logics, organisational structures, and behavioural expectations. This part employs prominent theoretical frameworks to explain and contextualise the observed differences in how executive attributes influence firm-level ESG outcomes under varying

ownership regimes. The goal is to link empirical regularities to theoretically grounded mechanisms, thereby enhancing both the internal validity and external interpretability of the analysis.

Upper echelons theory, originally developed by Hambrick and Mason (1984), asserts that organisational outcomes—strategic decisions, innovation trajectories, and performance levels—are partially determined by the cognitive bases, values, and experiences of the firm's top management teams. In this view, executive attributes such as age, tenure, educational attainment, and functional background shape how managers perceive and interpret their strategic environments, which in turn affects the decisions they make. Crucially, upper echelons theory is compatible with a subgroup-based analytical lens because it acknowledges that the salience and impact of top management team attributes depend on contextual moderators—including industry type, market dynamism, and institutional setting. Ownership structure is one such moderator.

For example, executive age reveals a significant negative effect in SOEs but no meaningful relationship in NSOEs. This result implies that older executives in state firms may be more resistant to strategic change or innovation, consistent with institutional inertia. The absence of such a relationship in NSOEs points to a more meritocratic or performance-driven managerial environment where age is less deterministic. In SOEs, where strategic decisions may be constrained by political oversight or long-term policy mandates, the cognitive space for individual executives to shape strategy may be narrower. In such environments, traits like age may influence how effectively a manager navigates bureaucratic systems, engages with regulators, or maintains political legitimacy. The strategic decisions made by such individuals may reflect risk aversion, incremental change, or policy conformity.

In NSOEs, executives may enjoy greater latitude in decision-making. Upper echelons theory would predict that managerial experiences—such as possessing R&D expertise—would have a more direct and profound influence on firm-level choices. R&D Functional Background displays significant negative effect in SOEs but a strong positive effect in NSOEs. This divergence aligns with the expectation that innovation-oriented traits are more highly valued and operationalised in market-driven firms. In contrast, SOEs may lack the

incentive structures or risk tolerance to convert R&D expertise into strategic outcomes. As such, the greater difference of coefficients in NSOEs is theoretically coherent. The managerial discretion available in private firms amplifies the influence of personal characteristics, whereas institutional constraints in SOEs suppress or channel those influences in specific, often politically sanctioned directions.

Top management team characteristics may function differently depending on the ownership structure. For instance, educational attainment might be more strongly associated with strategic influence in SOEs, where formal credentials align with bureaucratic legitimacy. In contrast, traits like innovation experience may be more salient in NSOEs, where performance orientation prevails. A subgroup analysis, therefore, operationalises these hypotheses by testing whether estimated effects significantly diverge between these ownership regimes.

5.4.2 Summary

The impact of top management team characteristics and ownership difference on ESG performance has been rigorously evaluated through a series of robustness checks. The influence of top management team characteristics on ESG performance has been rigorously examined through a series of robustness checks. This analysis focuses on ten core attributes: (1) team size, (2) CEO duality, (3) age, (4) educational background, (5) executive tenure, (6) R&D functional experience, (7) remuneration, (8) number of concurrent directorships, (9) regulatory or government background, and (10) gender. These variables collectively shape how members of top management team interpret strategic challenges, manage risk, and steer organisational direction. The findings reveal that the effects of top management team characteristics are not uniform across all firms, but rather vary significantly according to institutional and ownership context. For example, a larger management team may impede agility and decision-making efficiency, particularly in SOEs with rigid hierarchical structures. Such findings justify the modelling of SOEs and NSOEs using distinct regression equations, highlighting the presence of a structural break based on ownership type. A formal Chow test can confirm this visual diagnosis, lending further support to the analytical decision

to disaggregate the dataset by ownership structure in subsequent modelling. Although SOEs often benefit from preferential access to financial capital, regulatory support, and enhanced legal authority, these advantages are frequently counterbalanced by the political and social objectives that underpin government ownership. Founders representing public interests may prioritise employment stability, policy compliance, or regional development over shareholder wealth maximisation. These competing goals can dilute managerial incentives and introduce inefficiencies, particularly when political considerations take precedence over market-driven decision-making.

As a result, the interplay between these positive institutional advantages and the constraints imposed by political motives tends to produce a net effect that is neither strongly positive nor negative. This neutral outcome reflects a complex trade-off between resource access and strategic autonomy and is consistent with a broader body of literature documenting the ambiguous performance implications of government ownership in transitional and state-influenced economies. Educational Background shows positive and significant associations in both groups, though the magnitude is higher in SOEs. The difference in confidence intervals suggests that education plays a more formalised or politically relevant role in state-affiliated entities. In NSOEs, while education still contributes positively, the effect may be more diffuse due to the diversity of entrepreneurial pathways. The patterns observed across these variables collectively support the interpretation that the underlying relationships between top management team characteristics and strategic outcomes differ substantively across ownership types. The implied Chow test results strengthen the theoretical case for adopting a contingency or institutional perspective in corporate governance research. Rather than assuming uniform behaviour across firms, these results affirm that managerial characteristics function within institutionalised logics—bureaucratic in SOEs and market-oriented in NSOEs. Methodologically, they reinforce the need to conduct sub-sample analysis or include interaction terms to capture such difference explicitly.

For companies

Ownership-specific patterns call for differentiated instruments. Among state-owned enterprises, larger top teams and higher executive age are associated with weaker ESG

performance, whereas educational attainment is strongly positive, and an R&D functional track can be channelled towards production efficiency at the expense of wider environmental or social outcomes. Policy responses in the SOE domain should encourage the rightsizing of executive forums to limit coordination losses, embed ESG literacy and risk management within cadre training and appointment criteria, and ensure that technical leadership is explicitly coupled to sustainability mandates, targets and accountability. Periodic independent reviews and external assurance of material indicators can help to prevent longevity from sliding into entrenchment.

In the non-state sector, executive tenure and an R&D background are positively related to ESG outcomes, indicating that continuity and innovation capability are key enabling conditions when competitive pressure and resource constraints are greater. Policymakers can reinforce these dynamics by promoting stable, multi-year planning and disclosure regimes that reward sustained improvement, and by linking innovation support—grants, tax allowances and green credit—to auditable environmental or social results. Because similar characteristics operate differently across ownership regimes, rules should be framed on a comply-or-explain basis rather than as universal mandates.

Risk management follows naturally. In SOEs, persistent bloat in senior forums, rising average age without competence refresh, and technical leadership unconnected to ESG-linked KPIs are leading indicators of execution slippage and controversy risk. In NSOEs, the salient risks include erosion of continuity (abrupt leadership turnover) and R&D spend untethered from measurable sustainability results. Position sizing, monitoring intensity and escalation thresholds should be tailored accordingly, with explicit engagement milestones tied to governance inputs and to assured outcomes.

Ownership structures shape where emphasis should fall. SOEs have most to gain by streamlining senior decision-making, embedding ESG in technical hierarchies and accelerating learning at the top. NSOEs should prioritise preserving leadership continuity and converting R&D capability into measurable environmental and social outcomes. For both, the governing principles are capability, attention and incentives; without these, structural or cosmetic reform is unlikely to deliver material improvements in ESG

performance.

For policymakers

For state-owned enterprises (SOEs), the immediate priority is to curb coordination losses that arise when authority is diffused across large senior forums and layered administrative structures. Because ESG programmes cut across operations, finance, procurement, risk and human resources, ambiguous ownership of decisions leads to inertia. SOEs should therefore streamline the apex structure by constituting a compact, cross-functional steering group—typically five to seven decision-makers—mandated to set targets, approve budgets, and enforce remediation. Responsibilities should be codified (for instance, via a RACI framework) so that each material topic—decarbonisation, occupational safety, supplier conduct—has a named executive sponsor and a clear escalation path. A disciplined meeting rhythm enables course correction while preserving accountability. Non-state-owned enterprises (NSOEs) confront a different configuration of constraints and opportunities. Here, the evidence points to protecting leadership continuity and channelling R&D capability into outcome-oriented innovation.

For domestic and international investors

The evidence implies that the credibility of ESG delivery rests on different leadership ingredients in state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs). In SOEs, larger senior forums and higher average executive age are associated with weaker ESG outcomes, whereas educational attainment is positively related, and an R&D background—absent explicit sustainability mandates—tends to channel effort towards throughput and compliance rather than broader environmental or social results. In NSOEs, by contrast, leadership continuity (tenure) and an R&D orientation are positively associated with ESG performance, consistent with innovation-led, multi-year execution under market discipline. For investors, these contrasts provide ownership-sensitive signals for selection, engagement and risk control.

Domestic investors can interpret SOE signals with finer granularity given their familiarity with policy cycles, supervisory practice and state mandates. Oversized senior forums and

ageing leadership profiles should be read as coordination and adaptation risks, not merely stylistic choices. The most productive engagement focuses on demonstrable capability at board and executive level (competence matrices that include ESG-relevant skills), the concentration of decision rights (small cross-functional steering groups with budget authority), and the hard-wiring of auditable, unit-level KPIs into technical lines of command. Where technical leaders hold R&D portfolios, investors should seek clear evidence that sustainability targets are embedded in their scorecards and linked to resource release. Targeted executive education, periodic independent reviews and external assurance can mitigate the risk that continuity hardens into entrenchment. Because SOE programmes often advance within administrative timetables, domestic investors are well placed to calibrate patience when credible governance inputs—competence, accountability, and assurance—are in place. In the NSOE context, domestic investors may lean into the positive association of tenure and R&D by looking for programme stewardship that survives personnel changes and for innovation pipelines tied to verifiable outcomes.

International investors face the additional complication of divergence between domestic and foreign ESG ratings. In such settings, top-management attributes offer a methodology-insensitive lens. For SOEs, weight should be given to leadership capability (education), evidence of concentrated decision-making and the scope of assurance, while discounting the presence of large senior forums or rising average age where upskilling is limited. For NSOEs, tenure and an R&D orientation should be treated as favourable only where they are plainly connected to outcome-based indicators—verified emissions reductions, safety performance, supplier remediation—rather than generic innovation rhetoric. Across both ownership regimes, greater reliance on independently assured, outcome-oriented indicators—and less on any single composite score—helps to navigate rating divergence.

These ownership-conditioned attributes can be incorporated into portfolio construction and risk control. Investors can tilt positively towards SOEs that exhibit high executive education and tightly structured decision architectures, and away from those with very large top teams and ageing senior cohorts with little evidence of ESG upskilling. For NSOEs, tilts may favour balanced tenure and credible linkages from R&D to verified outcomes. To mitigate

confounding, exposures should be neutralised for size, liquidity and cash holdings, and stability screens applied to down-weight issuers with volatile disclosures or frequent leadership churn.

Data practice should reflect both the limits of ratings and the value of direct evidence. Domestic investors can exploit local filings, supervisory notices, and committee minutes to verify whether leadership inputs are present; international investors should request structured disclosures of top-management attributes—education, tenure—and the assurance scope for core ESG indicators, mapped where possible to international baselines for comparability. In all cases, preference should be given to indicators with clear audit trails and independent verification, thereby reducing the scope for score optimisation detached from real performance.

Chapter 6. Conclusion

This final chapter draws together the central insights of the research and reflects on its theoretical and practical contributions. The thesis was motivated by a key question: how do characteristics of top management teams influence strategic decision-making concerning ESG in Chinese publicly listed firms? Situated within the unique institutional and economic context of China—the world’s second largest economy—this thesis contributes to a deeper understanding of how leadership composition shapes corporate outcomes during a period marked by transition from rapid economic expansion to high-quality, innovation-driven development. Guided by a positivist research philosophy, with realist ontological and objectivist epistemological assumptions, the thesis adopted a quantitative approach to explore this question. Drawing on over 14,000 firm-year observations between 2009 and 2023, it examined the impact of ten core top management team variables—team size, CEO duality, age, educational background, executive tenure, research and development (R&D) functional track, remuneration, concurrent directorships, regulatory experience, and gender—on ESG performance. This thesis has explored the complex relationship between top management team characteristics and their influence on the outcomes of strategic decision-making regarding ESG in Chinese publicly listed firms.

China’s capital markets and corporate governance structures differ considerably from those found in Western economies. In particular, the distinction between state-owned enterprises and privately owned firms creates considerable variation in how top management teams are composed and how strategic decisions are made. State-owned enterprises are often guided by political mandates and state policy objectives, whereas private firms tend to prioritise market competitiveness and entrepreneurial agility. This institutional diversity provides a rich landscape for analysing how TMT characteristics such as team size, CEO duality, educational background, tenure, and functional experience contribute differently to firm-level strategic decisions depending on a firm’s ownership structure and external environment.

Chapter 2 provides the theoretical foundations for the empirical chapters by reviewing the central theories of corporate strategic decision-making processes and offering an overview

of the Chinese market context and it also identifies the gaps in the existing literature. Chapter 3 investigates the characteristic of the overall characteristics on top management teams and delves into the ESG performance. Chapter 4 clarifies the strategic decision-making mechanisms in the Chinese context and the influence of top management team characteristics on the outcomes of corporate strategic decision-making processes regarding ESG. Chapter 5 examines how this effect varies depending on the identity of the shareholders. The data for the empirical chapters comes from a sample of all companies listed on the three major stock exchanges in China between 2009 and 2023, with data availability being a key consideration for inclusion. The findings provide valuable insights into how internal governance mechanisms influence firm performance in the Chinese context. The research contributes both theoretically and practically. Theoretically, it extends the upper echelons framework by incorporating ownership diversity and embeddedness into the analysis of TMT influence. It provides practical guidance for Chinese firms seeking to optimise executive team composition to enhance strategic capacity regarding ESG decisions and alignment with national development goals. By linking top management team characteristics with measurable strategic outcomes in relation to ESG, the thesis offers actionable insights for boards, regulators, and investors striving to improve governance standards and leadership effectiveness in China's evolving economic landscape.

6.1 Findings and Contributions

This thesis offers several contributions to the literature on strategic management and corporate governance. First, the analysis confirms that top management team characteristics are strongly associated with variation in strategic choices and outcomes regarding ESG. Features such as educational background exhibit consistent and significant effects, reaffirming the notion that leadership composition plays a fundamental role in steering firms' ESG strategies. Well-educated teams are positively correlated with superior ESG outcomes and innovation-focused decisions.

Rather than treating Agency Theory and Resource Dependence Theory as merely supplementary to Upper Echelons Theory, this thesis incorporates them within the

framework of Upper Echelons Theory (as shown in Figure 3) to explain how the conditions under which managerial discretion is exercised varies across firms and institutional settings. Upper Echelons Theory provides the central premise that the characteristics of senior executives shape strategic outcomes through their influence on cognition, interpretation, and strategic judgement. However, the translation of executive attributes into observable organisational outcomes depends not only on who decision-makers are, but also on the extent of discretion available to them. From this perspective, Agency Theory helps to specify how governance arrangements, incentive structures, and monitoring relationships shape the degree of autonomy enjoyed by top management teams. Where executives are subject to strong political mandates, short-term performance pressures, or poorly aligned remuneration systems, their ability to pursue long-term strategic objectives such as ESG may be constrained, irrespective of their personal capabilities or experience. Resource Dependence Theory adds a further dimension by highlighting the extent to which managerial discretion is conditioned by access to external resources, legitimacy, and institutional linkages. Executives' backgrounds, external appointments, and political connections may either expand or restrict the firm's capacity to secure the support and resources necessary for ESG-related action.

Empirically, the thesis employs quantitative methods to analyse a comprehensive dataset of Chinese listed firms over a 15-year period, incorporating firm-level financial indicators, governance variables, and environmental, social, and governance performance metrics as the dependent variable. The findings reveal that top management team composition significantly influences strategic decision-making in relation to ESG performance outcomes, but this influence is moderated by contextual factors such as ownership form. R&D functional experience is negatively associated with outcomes in SOEs and is positively associated with outcomes in NSOEs. While both effects are statistically modest, the finding raises questions about institutional biases and representation in public-sector management structures. It suggests that SOEs may require structural reinforcement to translate into strategic impact. This thesis highlights the importance of considering ownership structure and top management team composition when evaluating firm performance.

Private firms, though often closely tied to the business, might place more importance on selecting managers with R&D experience to drive performance, as their focus tends to be on maximizing firm profitability rather than on maintaining firm strategy. The thesis highlights the distinctiveness of top management team configurations in Chinese firms, shaped by local institutional, political, and market forces. Executives with state or regulatory backgrounds, particularly in state-owned enterprises, appear to operate under different incentive structures than those in privately held entities.

Methodologically, the study contributes by triangulating data from various publicly available sources, including annual reports and ESG rating agencies. This multi-source approach increases the reliability and validity of the findings and serves as a model for similar research in developing or institutionally complex markets. This thesis's findings also highlight that factors such as political influence, personal experience, and the strategic direction of the firm play significant roles in shaping outcomes.

6.2 Implications of the Results

This thesis is organised around three questions: (i) to what extent the characteristics of top management teams influence strategic decision-making concerning ESG in Chinese listed companies; (ii) how demographic and experiential variation within those teams shapes the strategy process concerning ESG; and (iii) how ownership—distinguishing state-owned from non-state-owned enterprises—conditions the relationship between TMT attributes and strategic ESG performance. In addressing these questions, the study adopted a pragmatic research philosophy, allowing methodological flexibility and the integration of both theoretical perspectives and empirical insights. Pragmatism proved especially suitable for the Chinese context, where complex interactions between top management teams and strategic decision-making mechanisms require quantitative analytical approaches. Rather than positioning firms merely as passive recipients of institutional pressure, the analysis underscores the capacity of top management teams to act as institutional entrepreneurs, shaping and navigating their external environment in pursuit of strategic objectives. The study of environmental, social and governance's response illustrates the increasingly

strategic and anticipatory role of top management teams in managing institutional complexity. This entails foresight, strategic coherence, and the capacity to manage relationships across a diverse set of stakeholders.

Strategic decision-making within organisations is fundamentally influenced by the individuals occupying leadership roles. This thesis has examined how demographic, cognitive, and experiential characteristics of top management teams shape strategic outcomes in relation to ESG, drawing on Upper Echelons Theory as a guiding framework. According to Hambrick and Mason (1984), executives interpret and respond to complex organisational challenges through the lens of their individual attributes—such as age, education, and professional background—which collectively form a “perceptual screen”. This concept underpins the thesis’s exploration of ten executive variables: team size, CEO duality, age, educational background, tenure, R&D functional track, remuneration, concurrent directorships, regulatory or government background, and gender. These variables influence how executives assess strategic options, manage risk, and align organisational priorities with both internal goals and external pressures.

The subgroup analysis further enriches decision-making by incorporating a range of perspectives and skills, which is particularly vital in environments characterised by volatility and institutional complexity. Based on a dataset encompassing 14,231 firm-year observations, the 2SRI model exhibits strong explanatory power, as reflected in an adjusted R-squared value of 0.799. This suggests that the selected independent variables account for a significant portion of the variation in ESG performance, thereby reinforcing the credibility and robustness of the analytical framework. Through empirical analysis of listed Chinese firms, this study has demonstrated that the relationship between executive characteristics and strategic choices is both significant and context dependent. Factors such as ownership type modulate how leadership traits translate into strategic actions. As China continues to undergo rapid economic and regulatory transformation, understanding the nuanced interplay between executive composition and corporate strategy is essential. This result contributes to strategic management literature by providing robust evidence that leadership attributes matter—not in isolation, but in relation to the institutional context in which decisions are

made. Fostering strategically capable, diverse leadership teams is critical to achieving sustainable competitive advantage in contemporary corporate governance.

This thesis concludes by affirming the vital role of top management team (TMT) characteristics in shaping corporate strategic decisions concerning ESG within China's distinctive institutional environment. Grounded in the framework of upper echelons theory, the research examined how executive attributes influence ESG outcomes and explored how these effects differ between state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs). Recognising that China's governance structures and market dynamics are shaped by both state control and market liberalisation, this thesis highlights the varying strategic utility of TMT features depending on ownership type.

The findings reveal that the influence of top management team characteristics is not uniform but significantly mediated by ownership context. SOEs, for instance, often experience bureaucratic rigidity that dampens the effectiveness of certain executive traits, such as tenure and R&D experience, while placing greater emphasis on formal education. In contrast, NSOEs, operating under more competitive and market-oriented conditions, tend to reward managerial attributes linked to innovation, agility, and incentive alignment—such as R&D background and age. These asymmetries underscore the importance of recognising ownership as a key moderating variable in the relationship between TMT characteristics and strategic performance. These findings underscore the importance of context in interpreting executive influence. The strategic significance of top management team attributes is not intrinsic but shaped by governance structures, institutional legitimacy, and operational priorities. For policymakers and firm leaders alike, this calls for a more tailored approach to executive recruitment, development, and evaluation. Enhancing governance practices in SOEs through merit-based appointments and improved incentive systems may yield better strategic alignment. For NSOEs, preserving market agility while building institutional resilience remains essential. This thesis affirms that ownership structure affects the relationship between executive traits and strategic outcomes, and understanding this dynamic is crucial for improving corporate governance in China's evolving economic landscape.

The implications of the research extend to both theory and practice. Theoretically, the results reinforce the relevance of upper echelons theory in largest emerging markets, validating its central premise—that executive-level characteristics shape strategic outcomes. However, the thesis also points to the necessity of adapting this framework when applied to contexts such as China. The role of political ties, institutional legacies, and regulatory structures demands a more embedded interpretation of upper echelons dynamics. In practical terms, the study offers a range of insights for practitioners. Board members and shareholders may apply the findings when assessing or constructing top management teams, especially in relation to strategic goals like sustainability or technological innovation. For example, firms pursuing long-term ESG objectives may benefit from appointing executives with diverse educational and functional backgrounds. Likewise, policymakers could leverage these findings to refine governance codes and encourage executive diversity in SOEs. Institutional investors may also find value in the results, which enhance the skill for leadership risk assessment and performance forecasting. By analysing top management team composition alongside financial and operational indicators, investors can develop a more understanding of a firm's strategic direction and long-term viability. Ultimately, the findings affirm that leadership structure and attributes are not only symbolic but materially significant in shaping corporate outcomes.

6.3 Thesis Limitations and Suggestions for Future Research

Although this research makes valuable contributions, it is not without limitations. A key constraint lies in the exclusive reliance on secondary data. While extensive validation efforts were undertaken, some important dimensions of executive influence—such as interpersonal dynamics, leadership style, and informal networks—remain difficult to observe through publicly disclosed information. Future studies could benefit from a mixed-methods approach that incorporates interviews, surveys, or case studies. The ESG indicators employed, though increasingly standardised, still reflect discrepancies in disclosure practices and rating methodologies. As ESG measurement continues to evolve, future research may consider constructing ESG indices or integrating unstructured data sources, such as narrative disclosures, using text-mining techniques. Furthermore, while the dataset covers a broad

selection of listed firms, it does not fully explore differences within ownership categories. More granular distinctions—such as central versus local SOEs, or founder-led versus professionally managed private firms—could reveal further difference in top management team influence.

The thesis concentrates on Chinese listed companies, which offer a particularly informative context for analysing the relationship between executive characteristics, ownership structure, and ESG performance. At the same time, this setting is institutionally distinctive. The simultaneous presence of state influence and market-based competition means that the results should not be assumed to generalise automatically to other national environments or to firms operating outside public equity markets. Future research could address this limitation by adopting mixed-methods approaches, developing more direct measures of managerial cognition and strategic decision-making, and undertaking comparative analysis across different ownership forms, industries, and institutional settings.

Another promising direction lies in more rigorous temporal analysis. Although the study spans 15 years, further longitudinal modelling could offer deeper insight into how executive influence develops and interacts with shifting institutional conditions, such as regulatory reform or macroeconomic disruption. The effects of major external events—such as the COVID-19 pandemic or trade policy shifts—on the role of top management teams also merit future attention. There is scope to enrich the theoretical framework by integrating psychological and behavioural dimensions, including decision-making biases, ethical orientation, and leadership values. These factors could complement the demographic and experiential variables explored in this study and provide a fuller picture of the cognitive and social foundations of strategic behaviour.

A further limitation relates to external validity. Although Chinese listed firms offer a particularly useful context in which to examine the relationship between executive characteristics, ownership structure, and ESG performance, they operate within an institutional environment that is not easily replicated elsewhere. The combination of state involvement, developing regulatory frameworks, and market competition gives rise to governance conditions that may differ substantially from those found in other national

settings. As a result, the findings should not be assumed to extend automatically to other economies, particularly those characterised by different ownership patterns, legal regimes, or capital market structures. The contribution of the thesis is therefore better understood in terms of analytical rather than universal generalisability: it identifies broader mechanisms through which top management teams may influence strategic outcomes, whilst recognising that the expression of these mechanisms is likely to vary across institutional contexts. Future research could strengthen external validity by undertaking comparative analysis across countries, industries, and ownership systems.

In summary, this thesis presents a detailed empirical examination of how top management team characteristics influence strategic decision-making concerning ESG in Chinese corporates. It contributes conceptually, methodologically, and practically to our understanding of strategic decision-making mechanisms in emerging markets. While the research acknowledges its limitations, it lays a strong foundation for future research and offers actionable insights for those seeking to enhance the effectiveness and strategic capacity of top management teams.

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