

# A STUDY ON THE MEDIATING ROLE OF STRATEGIC DECISION-MAKING IN THE RELATIONSHIP BETWEEN CEO CHARACTERISTICS AND HIGH-TECH FIRM PERFORMANCE IN GUANGDONG, CHINA

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## Abstract

In China, high-tech enterprises are an important driving force for current economic development and industrial transformation and upgrading. Researchers have conducted in-depth research on the influencing factors affecting the performance of high-tech enterprises. The CEO is not only a complex of resources, knowledge and capabilities, but also a convergence point of the internal and external environment of the enterprise, and the key to establish the strategic advantages of the enterprise. The most important leaders in the cooperation team of business decision are the CEO. They are extremely important factors affecting the performance of the enterprise, and can be said to play a decisive role in the development and survival of the enterprise. Therefore, it is very meaningful to explore the impact of enterprise CEO characteristics on enterprise performance. In order to make the enterprise stand firm in the fierce competition and make continuous progress. This study investigated high-tech enterprises in Guangdong province, collected data and analyzed mixed research methods, and the results showed that there is a significant positive correlation between CEO characteristics and the performance of high-tech enterprises, and strategic decision plays an important intermediary role. By integrating the influencing factors of the performance of high-tech enterprises, the relationship model between CEO characteristics, strategic decisions and firm performance is constructed, so as to promote the upgrading of China's industrial structure and provide reference for the selection of CEO and enterprise's strategic decision.

**Keywords:** CEO characteristics; Strategic decision; High-tech enterprises; Firm performance

## Introduction

CEO is the core decision-making unit of an enterprise. The integration of CEO behavior reflects the behavior of senior management team and decision-making, and has an important impact on the formulation and implementation of enterprise strategy and the development of innovation activities. Therefore, the relationship between CEO characteristics and corporate innovation performance has become the research focus of scholars. The intermediary variable of strategic decision was introduced into the influence mechanism of CEO personality characteristics on corporate social performance, and the transmission path was revealed from the theoretical level. Based on sample data of high-tech enterprises in China, through the combing and existing literature at home and abroad, combined with top echelon theory, team theory and other related theory to analyze the relationship between the three, to some extent reveal "CEO characteristics-corporate social performance" of the "transmission process of" black box ", the empirical regression results of this paper will verify the strategic decision the intermediary variable influence on enterprise performance, broaden the CEO

characteristics of corporate social performance transmission mechanism research. Located in the south of China, Guangdong province is the largest economic province in China. In 2023, the GDP of Guangdong province reached 1,3567.316 billion yuan, with an increase of 4.8%. It is the first province in China to exceed 13 trillion yuan, and its total volume has ranked first in China for 35 consecutive years. In particular, the number of high-tech enterprises, ranked in the forefront of China, has a strong representative. With the growing support for upper echelons theory, various methods to assess CEOs' personality traits have emerged. Davidson et al. (2019) measure CEO materialism based on their ownership of luxury goods. Saidu (2019) explores how CEO ownership, education, and origin affect firm performance using balanced panel data from 2011 to 2016. The study reveals that CEO education enhances profitability and that prior firm experience before becoming CEO improves stock performance. These findings assist shareholders in selecting the right CEO and suggest further exploration of how CEO ownership influences power and effectiveness. Ormiston et al. (2022) investigate how CEO characteristics affect top management team (TMT) emotional experiences and firm outcomes, considering TMT heterogeneity. So far, there are no fewer than a hundred definitions of decision-making concepts, but a unified view has not yet been formed. Jiang Zhiyi (2021) pointed out that many domestic enterprises currently have problems such as outdated strategic thinking, difficulty in achieving expected results through strategic approaches, neglect of strategic environment analysis, and lack of adaptability. Conservative investors are willing to pay an information cost upfront to avoid investment risk, while venture investors are not (Ruqiang Guo, Linjie Liuet al., 2023). By systematizing the process how new strategies are introduced, a rational implementation style is considered appropriate to ensure that top management is able to closely monitor and control organizational change (Andrews et al., 2017). Many authors have argued that the integration of sustainability into business strategies is fundamental to the achievement of lasting competitiveness, and wellbeing of stakeholders, employees, and society in general (Engert et al., 2016). Implementing strategies approach through the strategic decision making is also interesting to be studied at the present of the role of organizational agility (Aswalmi Gusmita, Lily Sudhartio2020).

In research on performance, some scholars believe that performance is an indicator that reflects the achievement and effectiveness of a company's goals, and can be the company's operational performance and efficiency. Muo Charles(2023) point that,firm performance which is measured firm efficiency, firm profitability, competitive advantage, customer satisfaction and employee productivity.

Bernardin (2021) believes that performance reflects the workload of production and business activities within a given time frame, and is the result of an individual's performance in achieving a company's strategic goals.

This paper to the leadership theory of advanced theory, team theory, new growth theory and the entrepreneur theory, with the CEO features research perspective, to "CEO features a strategic choice a enterprise performance" as the logical main line, follow the "research status review a related theory explain a related concept logic relationship analysis and hypothesis an empirical evidence test" research ideas, study the inherent mechanism of Chinese high-tech enterprise CEO characteristics on innovation performance.

## **Objective**

This paper discusses the factors influencing the performance of high-tech enterprises in Guangdong Province. The CEO characteristics as the link between strategic choice and enterprise performance. this paper introduces the strategic decision the intermediary variable and executive team heterogeneity as a regulatory variable further explain the relationship between the two, from the new perspective of the CEO characteristics and enterprise performance into the research, and from the perspective of optimizing executive team of the

enterprise benefit Suggestions, make the executive team to make more scientific and reasonable investment decision.

## **Literature review and hypothesis development**

### **CEO Personality**

The upper echelons theory suggests that directors' characteristics, values, and professional experience have an impact on their perceptions, and thus their own decisions. The CEO characteristics examined include gender, age, qualification, experience, ownership, duality, and tenure (Bsoul, Rubaet al.,2022). the company' s risk-taking level is primarily the outcome of decisions made by the CEO's who are involved in the decision-making process, and their personal characteristics clearly influence these decisions. Thus, the analysis of the CEO's demographic characteristics might help to determine the key factors that impact the companys risk behaviors (Martino et al., Citation2020). Farag and Mallin (Citation2018) contend that the CEO's demographic characteristics are the key determinants of their overconfidence and hubris, and this has implications for firm risk-taking. The resource dependence theory suggests that boards with diverse backgrounds help to enhance the company's legitimacy and simplify its access to different resources. Thus. Diverse CEO characteristics i.e., gender and education can create different perspectives, experiences, and backgrounds for the board; for example, the existence of female CEO on the board generates different benefits and resources for the firm (Vo et al., Citation2021). CEO activism stems foremost from a CEO's personal values but is facilitated (or suppressed) by the CEO's expectation of support from stakeholders, particularly employees and customers (Donald C. Hambrick, Adam J. Wowak. 2021). Innovation is largely determined by CEO's who frame market opportunities and drive investments in firm resources(Oliver, J2024).

Tom Aabo (2023) suggest that strategic adaptability is impeded by rigid planning, resistance to change (conscientiousness) and lack of emotional stability (neuroticism). In the same article, he simultaneously found that, their findings are economically significant and have important implications concerning CEO selection and management. Depending on the context and the environmental conditions, a firm may be selective in terms of the choice of CEO personality.

Kitchell (2021) divides CEO personality traits into two categories: demographic characteristics, which include age, educational background, international experience, and tenure; The other type is characteristics. In terms of CEO demographic characteristics, scholars believe that CEOs reflect their own cognitive foundation when deciding strategies, and the composition of cognitive foundation includes personal education and experience. Hambrick&Mason's (2021) higher-order theory (Upper echelons) suggests that CEO demographic variables can effectively predict firm performance. Daellenbach et al. (2020) argue that CEO tenure, educational background, and firm innovation are related. Further research by Wu et al. (2023) found a non-linear inverted U-shaped relationship between CEO tenure and innovation. The results showed that CEOs with shorter tenure lead innovation in highly uncertain technological environments, while CEOs with longer tenure need to lead innovation in already stable technological environments. In addition, the research results of Man Dang (2017) show that when the CEO is younger and has a higher shareholding ratio, their company's R&D investment will be higher; However, there is no significant correlation between CEO's education level and R&D investment.

CEO personality traits often have a profound impact on their leadership style and company culture. Although every CEO has their own unique personality, some common personality traits are particularly prominent among successful CEOs. The dimensions selected in this article include risk taking, tenure control, and tenure narcissism level. Successful CEOs

typically possess multiple personality traits, which together form their unique leadership style and management abilities.

### **Firm Performance**

Carl Binder (2018) believes that performance is the action or behavior of a company to create value that is related to organizational goals and should be distinguished from outcomes, as outcomes are influenced by systemic factors. The second viewpoint holds that performance is the result. Bernardin (2021) believes that performance reflects the workload of production and business activities within a given time frame, and is the result of an individual's performance in achieving a company's strategic goals. Chinese scholar Zhang Rui (2022) categorizes corporate performance as the achievements or results obtained by people engaged in a certain activity. Companies with good performance often obtain higher returns with smaller investments. The third perspective views performance as a collection of behaviors and outcomes.

According to the views of the scholars mentioned above, corporate performance not only reflects the established production and operation facts in the past, but also provides support for predicting the future development of the enterprise. It is dynamic and complex, and traditional financial indicators alone cannot meet our measurement needs. Therefore, we need to take a long-term perspective on corporate performance and conduct a comprehensive and reasonable evaluation.

Prior research has employed several measures to quantify this variable, such as the standard deviation of the firm return on assets ratio, the standard deviation of the firm stock return, the research and development expenditures, leverage, and the standard deviation of the firm Tobin's Q ratio (Ferris et al., Citation2019; Faccio, 2016; Loukil & Yousfi, Citation2022; Martino et al., Citation2020; Muhammad et al., Citation2022; Vo et al., Citation2021). Klingenberg et al. (2023) used multiple indicators such as financial performance, innovation performance, technological performance, and employee satisfaction to evaluate the performance of various industries. This paper has selected four dimensions of corporate performance, including financial performance, innovation performance, technical performance, and employee satisfaction.

### **Strategic Decision-Making**

In order to achieve high performance, managers may choose to make risky decisions (Hoskisson et al., Citation2017). The literature on the value of strategic flexibility generally recognizes that flexibility is not without costs and that it is beneficial in dynamic environments but not in stable environments (e.g., Claussen et al., 2018), in line with Herhausen et al. (2021). Decision-makers are required to possess the skill of decision-making by being vigilant of their surroundings (Haitham M. Alzoubi, 2021). Ma Ruqiang (2006) conducted research on the necessity and main content of market environment analysis in corporate strategic decision-making, and believed that market environment analysis is an important issue that business operators must consider and an essential component in formulating competitive strategies.

The internal conditions of an enterprise refer to various factors that come from within and constrain its operation and development. Mainly including: financial capability, equipment level, employee quality, management level, development capability, production capability, leadership and organizational capability, corporate culture, etc. Henry Mintzberg (2019) compares strategists to ceramic artists, emphasizing the role of sensation, experience, and other factors; Ma Dongsheng (2021) also emphasized the value of intuition and other factors in strategic decision-making, analyzing the importance of combining intuition with rationality in strategic decision-making; Xu Ju (et al., 2021) studied the influence of factors such as emotions, experience, thinking, and intuition on irrational strategic decision-making; Benjamin Lghodalo

and Ehikioya (2023) studied the impact of information technology on corporate strategic decision-making and performance, and concluded that information technology is an important resource for developing strategies.

The dimensions selected in this article include defensive strategy, predictive strategy, and analytical strategy. Corporate strategy can be interpreted as the study of a company's plans for long-term development in response to future environmental changes.

### **The Relationship between CEO Personality and Firm Performance**

There is a complex and subtle relationship between the characteristics of the top management team and firm performance. Although personality traits are difficult to quantify directly, multiple studies have shown that they have a significant impact on corporate performance by influencing the CEO's decision-making style, management behavior, and strategic choices. Confident CEOs are often able to make quick decisions and seize market opportunities. Their decisiveness helps companies maintain competitiveness in complex and ever-changing market environments, thereby enhancing their performance (Ketchen, 2022). CEOs who are willing to take risks are more likely to drive innovation and change in their companies, although this may come with some uncertainty, the rewards of success are often enormous. However, excessive risk-taking can also lead to difficulties for businesses (Audia, 2022). CEOs with openness and innovation are more likely to drive companies to adopt new strategies and technologies to adapt to market changes. This forward-looking strategic choice helps companies maintain a leading position and improve performance (Andreea N. Kiss et al., 2022). Firms with more powerful CEOs are less likely to invest in R&D activities. Besides, the study finds that this significant negative relation is largely driven by firms with weaker corporate governance (Christine Naaman, 2021). Feng Liu (et al., 2021) observed that while the CEO greatly influenced the team landscape and the resulting strategic decision-making process and outcomes. Nadežda Jankelová (et al., 2020) think, that managers use more rational approach than intuitive approach. The most important factors that influence the level of rationality in strategic decision making were external factors. The volatility of a firm's assets is influenced by the firm's business model and operations, both of which have been shown in the literature to be strongly correlated with CEO personality traits (Bernile et al., 2017).

### **Development of Hypothesis**

From a comprehensive review of the literature and related research, the significance of the variables can be summarized as follows. Independent variable CEO characteristics, including the three dimensions, 1.risk taking, 2.problem solving, 3.self discipling. The dependent variable enterprise performance contains four dimensions, 1.financial performance, 2.innovation performance, 3.technical performance, 4.employee satisfaction. The mediation variable contains three dimensions, 1.defensive strategy, 2.predictive strategy, 3.analytical strategy. The relationships between all the variables were studied based on 10 dimensions. The hypothetical development is as follows:

Hypothesis 1: The CEO characteristics positively affect the enterprise performance.

Hypothesis 2: The CEO characteristics positively influence the strategic decisions.

Hypothesis 3: Strategic decisions positively affect enterprise performance.

The hypothesis framework of this study is shown in Figure 1.

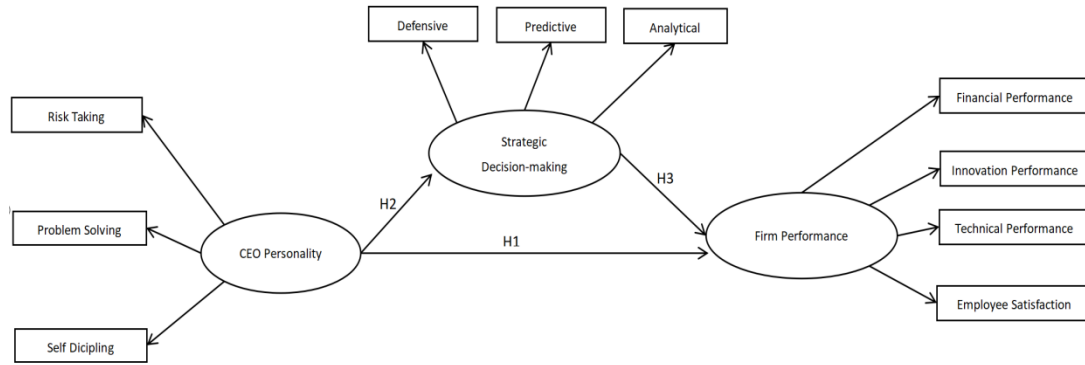


Figure 1. Research hypothesis framework.

## Methodology

This chapter begins by describing the research paradigm used in this study, used were qualitative and quantitative research methods, outlining the research design in three steps. Firstly, the theoretical framework is presented in the first step, followed by the second step, which tests the validity of the theoretical framework using quantitative analysis, and the third step, which explains the theoretical framework using qualitative analysis. The data comes from high-tech companies in Guangdong province, China, to ensure a comprehensive understanding of the relationship between CEO characteristics, strategic decisions, and corporate performance.

### Sub-Section 1

Through the questionnaire survey, the representatives of high-tech enterprises in Guangdong Province were selected to collect the relevant data about the CEO characteristics (1.risk taking, 2.problem solving, 3.self discipling), strategic decisions (1.defensive strategy, 2.predictive strategy, 3.analytical strategy) and enterprise performance (1.financial performance, 2.innovation performance, 3.technical performance, 4.employee satisfaction). Data analysis by using the SmartPLS4.0 software and the regression, It helps to obtain real-time cross-sectional understanding of the sample group. By using statistical techniques to analyze and examine collected questionnaires, the current situation can be described, evaluated, interpreted, and predicted.

### Sub-Section 2

In the qualitative study, through in-depth interviews, several CEOs of high-tech enterprises in Guangdong province were selected for the interview, and NVivo software was used to analyze the data to verify the relationship between CEO characteristics, strategic decisions and enterprise performance, the results were interpreted and analyzed. Deepen the theoretical framework by verifying the hypothesis.

## Conclusion and Future Work

The concept and connotation of CEO characteristics, strategic Decision-Making and firm performance are determined through the combing of literature and the analysis of related theories. With strategic Decision-Making as the intermediary variable, the logical framework between CEO personality characteristics — strategic selection — enterprise performance is constructed, and the transmission path is revealed from the theoretical level. Disentangle the theoretical relationship between related variables and verify the research hypotheses to enrich the research model. What kind of enterprise management structure will have a positive impact

on the enterprise performance can analyze, and provide reference for Chinese high-tech enterprises how to build the senior management team structure, improve operational efficiency and promote the improvement of enterprise competitiveness. At present, it is limited to Guangdong Province, and there are some gaps in the research of other areas whose economic development level is inferior to that of Guangdong Province. Future research could expand the study area and field,, and could also use more data and a wider range of firms to study the link between CEO character trait and firm performance.

### Acknowledgements

I sincerely thank Suan Sunandha Rajabhat University for their valuable assistance throughout the entire research process.

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