

Faculty of Economics and Business

Influence of CEO's Entrepreneurial Leadership Behaviour on Innovation Performance of Firms in China

Xilun Yang

Doctor of Philosophy
2025

Influence of CEO's Entrepreneurial Leadership Behaviour on Innovation Performance of Firms in China

Xilun Yang

A thesis submitted

In fulfillment of the requirements for the degree of Doctor of Philosophy

(Management)

Faculty of Economics and Business
UNIVERSITI MALAYSIA SARAWAK
2025

DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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Signature

Name: Xilun Yang

Matric No.: 21010397

Faculty of Economics and Business

Universiti Malaysia Sarawak

Date:

ACKNOWLEDGEMENT

Time passes swiftly, and as I reflect on the past few years of my doctoral journey, it feels like they have flown by. These years have been transformative, marked by significant changes in my life, work, and studies. Often, I am reminded of the unpredictability of life, and I have learned to cherish the present. Completing this doctoral thesis represents a pivotal milestone in my life, bringing a sense of fulfilment to my academic pursuits while instilling in me the confidence to face future challenges. Over these three years, some have walked alongside me throughout the journey, while others departed along the way. To all who have accompanied me, even briefly, I offer my heartfelt gratitude. Your presence and support have made the completion of this thesis possible.

I am deeply grateful to the individuals and institutions whose unwavering support has contributed to this achievement. Foremost, I extend my sincere appreciation to my primary supervisor, Professor Dr. Harry Entebang, for his invaluable guidance, insightful feedback, and steadfast encouragement, which have been instrumental in shaping the direction and quality of my research. I am equally indebted to my second supervisor, Dr. Irma Yazreen binti Md Yusoff, for her constructive insights, encouragement, and significant contributions, which greatly enhanced the rigor of this study. I also acknowledge the Faculty of Economics and Business (FEB) for providing a supportive academic environment and essential resources that facilitated the successful execution of this research. My heartfelt thanks go to the research participants, whose willingness to share their knowledge and experiences enriched the findings of this study.

On a personal note, I am profoundly thankful to my parents, Ms. Chen Yanjun and Mr. Yang Zhichen, whose unwavering love and belief in me have been a constant source of strength and motivation. I am also deeply appreciative of the steadfast support and encouragement from my friends, Yang Lu, Guo Yuchen, Sun Xiaowen, Song Guangkun, and many others, whose kindness and camaraderie have provided comfort and inspiration throughout this journey.

Finally, to all who, directly or indirectly, supported me during this journey, I extend my deepest gratitude. Your belief in my potential and your invaluable contributions have made this milestone possible, and I carry a profound appreciation for each of you.

ABSTRACT

In today's VUCA environment, sustaining competitive advantage requires continuous innovation. Entrepreneurial Leadership (EL) is increasingly recognized as a key driver of innovation, essential for the long-term success of enterprises. This study investigates the relationship between EL and innovation within Chinese Internet Enterprises (CIEs), focusing on how Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS) mediate the influence of EL on Radical Innovation (RI) and Incremental Innovation (II). Additionally, the moderating effects of Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO) are examined. A mixed-methods approach was adopted, integrating quantitative survey data from 593 valid responses and qualitative insights from 14 senior managers across CIEs. PLS analysis was employed for the quantitative phase, while qualitative interviews provided deeper understanding of the mechanisms linking EL to innovation. The findings highlight EL's critical role in fostering both RI and II. Innovation Culture acts as a strong mediator between EL and both types of innovation. Decentralization Structure promotes II, while Knowledge Sharing negatively affects RI. External factors further moderate the influence of EL on mediators, emphasizing the necessity for adaptive leadership in response to a rapidly changing environment. This research contributes to Upper Echelons Theory (UET) and the Resource-Based View (RBV), offering practical guidance for enhancing innovation performance in CIEs. It provides a comprehensive framework for aligning entrepreneurial leadership with internal organizational factors in VUCA environment to sustain competitive advantage.

Keywords: Entrepreneurial Leadership, Radical Innovation, Incremental Innovation, China, Internet Enterprises

Pengaruh Kepimpinan Keusahawanan Ketua Pegawai Eksekutif terhadap Prestasi Inovasi Firma di China

ABSTRAK

Dalam persekitaran perniagaan yang dinamik pada masa kini, mengekalkan kelebihan bersaing memerlukan inovasi yang berterusan. Kepimpinan Keusahawanan (EL) semakin diiktiraf sebagai pemacu utama inovasi, yang penting untuk kejayaan jangka panjang sesebuah perusahaan. Kajian ini menyiasat hubungan antara EL dan inovasi dalam Perusahaan Internet China (CIEs), dengan tumpuan kepada bagaimana Budaya Inovasi (IC), Struktur Desentralisasi (DS), dan Perkongsian Pengetahuan (KS) memediasi pengaruh EL terhadap Inovasi Radikal (RI) dan Inovasi Inkremental (II). Tambahan pula, kesan pengantara faktor luaran seperti Pergolakan Teknologi (TT), Dinamisme Persekitaran (ED), dan Orientasi Pasaran (MO) turut dikaji. Pendekatan kaedah campuran digunakan, menggabungkan data kuantitatif daripada 593 respons yang sah dan wawancara kualitatif daripada 14 pengurus kanan di CIEs. Analisis PLS digunakan dalam fasa kuantitatif untuk mengenal pasti hubungan yang signifikan antara pemboleh ubah, sementara wawancara kualitatif memberikan pemahaman mendalam mengenai mekanisme yang menghubungkan EL dengan inovasi. Penemuan menunjukkan peranan penting EL dalam memacu kedua-dua RI dan II. Budaya Inovasi bertindak sebagai mediator kuat antara EL dan kedua-dua jenis inovasi. Struktur Desentralisasi mempromosikan II, manakala Perkongsian Pengetahuan memberi kesan negatif terhadap RI. Kajian ini menekankan keperluan untuk keseimbangan antara strategi inovasi radikal dan inkremental. Faktor luaran seperti TT dan ED mempengaruhi hubungan antara EL dan mediator, menekankan kepentingan kepimpinan adaptif dalam menghadapi persekitaran yang berubah dengan pantas. Kajian ini menyumbang kepada Teori Eselon Atasan (UET) dan Pandangan Berasaskan Sumber (RBV),

menawarkan panduan praktikal untuk meningkatkan prestasi inovasi dalam CIEs. Ia menyediakan kerangka komprehensif untuk menyelaraskan kepimpinan keusahawanan dengan faktor dalaman organisasi dan dinamik persekitaran luaran bagi mengekalkan kelebihan bersaing.

Kata kunci: *Kepimpinan Keusahawanan, Inovasi Radikal, Inovasi Bertahap, China, Perusahaan Internet*

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LIST OF ABBREVIATIONS

CIEs	Chinese Internet Enterprises
DS	Decentralization Structure
ED	Environmental Dynamism
EL	Entrepreneurial Leadership
IC	Innovation Culture
II	Incremental Innovation
KS	Knowledge Sharing
MO	Market Orientation
RBV	Resource-Based View
RI	Radical Innovation
TT	Technological Turbulence
UET	Upper Echelons Theory

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter serves as an introduction to the study, focusing on the complex relationship between entrepreneurial leadership (EL) and innovation within Chinese Internet Enterprises (CIEs). It begins by providing an overview of the historical background of CIEs and their strategic importance in the global business landscape. The emergence of entrepreneurial leadership as a key determinant of organizational success within CIEs is highlighted, setting the stage for the investigation into its influence on innovation performance.

The chapter then articulates the problem statement, identifying the gap in understanding the specific mechanisms through which entrepreneurial leadership drives innovation within CIEs. It emphasizes the significance of addressing this gap to enhance knowledge and strategic decision-making in the field of entrepreneurship and innovation.

Additionally, the chapter outlines the research objectives, which aim to investigate the relationship between entrepreneurial leadership and innovation within CIEs, considering both internal organizational factors and external environmental dynamics. It also previews the structure of the thesis, providing an overview of the subsequent chapters and their respective content areas.

1.2 Study Background

China's rise to power is one of the most remarkable achievements of the modern era, with an average GDP growth rate of 8.6% over the last two decades (Xia and Liu, 2024).

Beginning with Deng Xiaoping’s 1978 reforms, including the creation of "special economic zones," China has lifted over eight hundred million citizens from poverty between 1990 and 2015 (Lugo et al., 2021; Wang, 2022). Since the 2008 global financial crisis, China has been a key contributor to international economic expansion (Lin, 2011). Political reforms in the 1990s shifted China from a bureaucratic system to a multi-stage power structure, allowing the adoption of Western policies like joining the World Trade Organization (Feng, 2006; Tanner, 1999). As a result, China's private sector grew rapidly, and a growing number of Chinese start-ups entered the Fortune 500 list, despite Western corporations' head-start (Dai et al., 2022). Experts suggest Western companies adopt Chinese management practices to remain competitive (Filatotchev et al., 2020).

China has prioritized scientific and technological self-reliance, aiming to lead in innovation. Although ranked highly in global innovation, China faces imbalances, with fewer high-precision technologies developed compared to lower-end ones (Terzić, 2022; Wübbeke et al., 2016). To overcome this, China plans to enhance research and innovation through national policies and infrastructure (Yan et al., 2020). On the global stage, China’s technological rise has led to strategic shifts, with the U.S. responding through policies like the Chip and Science Act and alliances like AUKUS to counter China's growth in high-tech sectors (Zhao, 2022; Klingler-Vidra and Kuo, 2021). This competition, particularly in semiconductors, has sparked trade tensions and a shift towards "reverse globalization" (Rikap et al., 2021).

Entrepreneurial leadership is essential to China's innovation drive, though Chinese managers are still developing necessary skills for success (Mehmood et al., 2022; Dikaiakos et al., 2017). The government supports internet technologies as a catalyst for growth, with

companies like Baidu, Alibaba, and Tencent serving as examples of successful innovation (Kshetri, 2017; Kiss et al., 2022). This study aims to assess how entrepreneurial leadership influences innovation in China's internet sector, while calling for more research on Eastern leadership perspectives (Dimovski et al., 2013).

1.2.1 Research Context in China Internet Industry

Traditionally, China's economy has been dominated by state-owned enterprises (Hassard et al., 2010), but internet companies have become pioneers of innovation (Wang et al., 2022). Internet companies are agile and innovative, allowing them to adapt to changing market demands (Williamson, 2016). Studying these firms provides insights into their organisational structure and innovation management, which can be applied to traditional companies to boost innovation. These companies have accumulated resources and first-mover advantages in the digital space, making collaboration with traditional enterprises essential to accelerate innovation (Hafeez et al., 2020). Consequently, mixed-ownership reforms between state-owned and internet companies are gaining traction, combining the strengths of both sectors to drive transformation and innovation (Yu, 2019).

The 19th Party Congress report emphasized promoting mixed-ownership reforms to cultivate world-class enterprises (Xu et al., 2022). An example is China Unicom's mixed-ownership reform, which involved strategic cooperation with Baidu and other internet companies to diversify ownership and boost industrial internet innovation (Wang, 2023).

Over the last four decades, China's economic and technological progress has allowed its businesses to compete globally, shifting from low-cost manufacturing to high-end, value-added products (Brandt and Thun, 2016; Zeng and Williamson, 2007). Chinese companies

now challenge Western corporations in global markets, aided by technological advances and a vast domestic market (Tse, 2010; Mearsheimer, 2021).

China’s internet development began in 1987, and the government has since prioritized the internet as a key part of its modernization strategy. Policies like the "Internet Plus" plan aim to integrate the internet into all economic sectors by 2025 (Song, 2022; Li, 2018). The internet economy has grown rapidly, and in 2021, China’s top 100 internet companies saw significant increases in revenue, profits, and R&D investment (ISC, 2022).

Leading internet companies like Baidu, Alibaba, and Tencent (BAT) have become major global players, competing with U.S. tech giants such as Apple, Google, and Amazon (Su and Flew, 2021). New start-ups like ByteDance (owner of TikTok), Meituan, and Didi Chuxing have also gained global recognition for their innovation and market leadership (Keane et al., 2020). China’s internet industry, in less than 30 years, has grown into a powerful sector, extending its influence from domestic markets to the global stage (Chenming, 2021; Junzhi, 2021).

The success of these companies has shown that Chinese internet enterprises are not only competing but also redefining global tech landscapes with their unique business models and rapid innovation. ISC (2022) picks ten leading indicators representing six aspects, including company scale, profitability, innovation capability, growth, risk prevention and control capability, and social responsibility, for the China Internet Enterprises Comprehensive Strength Index research. Table 1.1 shows the top five companies, along with the innovation types of their primary products and the leadership styles of their CEOs:

Table 1.1: CEO Profiles of Top CIEs

Ranking	Company	Founding Date	Main Business/Products	Main Innovation Type	Founder CEO
1	Alibaba Group Holding Limited	June 1999	Taobao, Tmall, AliCloud, Gaode Map, AliPay	Radical Innovation on E-commerce	Jack Ma Yun
2	Tencent Holdings Ltd.	Nov 1998	WeChat, Q.Q., Tencent Video, Tencent Cloud, Tencent Conference	Radical Innovation On Social Network	Pony Ma Huateng
3	Baidu Inc.	Jan 2000	Baidu Search, Baidu Smart Cloud, Xiaodu Appolo Open Platform for Automated Driving	Radical Innovation On Chinese Search	Robin Li Yanhong
4	J.D. Group	June 2009	J.D. Mall, J.D. Logistics, J.D. Health	Incremental Innovation in E-commerce	Liu Qiangdong
5	Meituan Corporation	May 2010	Meituan Takeaway, Dianping	Radical Innovation on Lifestyle	Wang Xing

1.2.2 CEO's Leadership and Innovation Performance in CIEs

Leadership effectiveness is critical for organizational success, with poor management often being a key reason for employee turnover (Megheirkouni and Mejheirkouni, 2020). No single leadership style suits all businesses due to constant changes in the corporate environment (Passakonjaras and Hartijasti, 2020). Leadership studies have evolved from focusing solely on top leaders to including factors like followers, culture, and work environments (Gardner et al., 2020). In the context of China's booming internet business, exploring the leadership styles that foster innovation is crucial, particularly in companies like Baidu, Alibaba, and Tencent (BAT), which are leaders in technological innovation (Fabre, 2018).

Jack Ma (Alibaba), Robin Li (Baidu), and Pony Ma (Tencent) exemplify leadership in radical and incremental innovation. Jack Ma, through Alibaba, pioneered innovations like

Alibaba Cloud and Alipay, while refining platforms like Taobao and Tmall with AI-driven technologies (Liu and Avery, 2021; Yun et al., 2020). Robin Li's leadership at Baidu introduced radical innovations like the Apollo autonomous driving platform, while incremental innovations in AI healthcare also marked Baidu's progress (Li, 2022c). Pony Ma at Tencent spearheaded revolutionary products like WeChat and transformative gaming ventures, while continuously enhancing platforms like WeChat Pay with incremental innovations (Birkinshaw et al., 2018; Melnik, 2019).

These CEOs exemplify entrepreneurial leadership by fostering innovation through risk-taking and strategic vision, a behavior integral to driving both radical and incremental advancements (Burns, 2020). Jack Ma's visionary leadership in disrupting traditional business models, Pony Ma's emphasis on innovation, and Robin Li's technical foresight reflect key aspects of entrepreneurial leadership (Fabre, 2018; Lee and Wang, 2023). They continuously adapt to industry changes, invest in emerging technologies like AI, and nurture innovation-friendly cultures within their companies.

The entrepreneurial behaviours of these leaders drive both radical transformations and incremental improvements, showcasing their commitment to innovation. However, while entrepreneurial leadership is a major driver, other factors, including market dynamics and internal organizational structures, also play vital roles in fostering innovation. This highlights the need for further research into the complex relationship between entrepreneurial leadership and innovation in Chinese internet enterprises (CIEs).

The CEO plays a crucial role in the success of new businesses, particularly within Chinese Internet Enterprises (CIEs) like Baidu, Alibaba, and Tencent, which exemplify innovation. Research shows that senior executives significantly influence a firm's

fundamental performance, with innovation performance heavily reliant on their efforts (Singh et al., 2021; Entebang et al., 2010). As the ultimate decision-makers, CEOs are responsible for the firm's success and shareholder returns (Hambrick et al., 1996). The Upper Echelons Theory (UET) posits that CEOs make strategic choices based on their experiences and beliefs, impacting organizational transformation and performance (Hoskisson et al., 2017).

Applying the Resource-Based View (RBV) theory reveals that internal resources and capabilities, such as knowledge sharing and innovation culture, are critical for competitive advantage (Collins, 2021). CEOs serve as stewards of these resources, fostering environments that support innovation and aligning internal capabilities with external opportunities (Collins, 2021; Zacharias et al., 2015). Notable CEOs exemplify these traits: Jack Ma (Alibaba) is known for his inspiring leadership; Pony Ma (Tencent) encourages creativity and resilience; Robin Li (Baidu) emphasizes communication and fresh ideas; and Liu Qiangdong (J.D. Group) advocates for technological openness and fairness. Collectively, these leaders illustrate how CEO behaviours significantly drive innovation within CIEs (Burkhard et al., 2018; Toma et al., 2019; Xue, 2019; Zhang, 2019).

1.3 Problem Statement

Entrepreneurial Leadership (EL) is increasingly recognized as a critical driver of organizational innovation, particularly in fostering both radical innovation (RI) and incremental innovation (II). However, traditional studies grounded in Upper Echelons Theory (UET) have primarily focused on the demographic traits of top executives—such as age, tenure, and education—rather than their leadership behaviours (Chen et al., 2022b; Kashmiri & Mahajan, 2017). This narrow focus overlooks the significant role that leadership

behaviours, specifically entrepreneurial leadership, play in shaping organizational outcomes, particularly in relation to innovation (Hoang et al., 2022). Similarly, while Resource-Based View (RBV) emphasizes the importance of leveraging internal resources to gain a competitive advantage, there is limited understanding of how intangible resources—such as innovation culture, organizational structure, and knowledge sharing—mediate the impact of EL on innovation (Barney, 1991). This represents a critical gap in linking EL with both UET and RBV frameworks.

Moreover, while Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS) have been suggested as potential mediators between leadership and innovation outcomes (Rehman et al., 2021), the findings remain inconsistent. Some studies report that IC significantly enhances innovation by aligning employees' efforts (Sarros et al., 2008), while others indicate minimal or no significant mediation effects (You et al., 2020). These inconsistencies highlight the need for a more comprehensive examination of how these mediators influence the relationship between entrepreneurial leadership and radical versus incremental innovation. Furthermore, existing literature often treats innovation as a single construct, neglecting the differences between radical and incremental innovation, each of which may require different leadership strategies (Burns, 2020).

In addition to the gaps in internal organizational factors, the role of external environmental factors remains underexplored. Both UET and RBV emphasize the importance of understanding the external context within which organizations operate, yet moderators such as Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO) have received insufficient attention in how they shape the relationship between EL and innovation (Hoang et al., 2023). These external factors could

potentially enhance or diminish the effectiveness of entrepreneurial leadership, creating a need for research that systematically incorporates both internal mediators and external moderators into the analysis.

While entrepreneurial behaviours have been observed in Chinese CEOs, particularly in Chinese Internet Enterprises (CIEs) like Baidu, Alibaba, and Tencent (BAT), these behaviours have historically not been formally recognized as entrepreneurial leadership. This gap in recognition raises important questions about the role of EL as a distinct leadership construct and how it influences innovation in rapidly evolving markets (Tsui et al., 2004). Despite their demonstrated success, the formal relationship between EL and innovation—particularly how internal resources and external environmental factors mediate and moderate this relationship—remains underexplored in the context of non-Western enterprises.

This study aims to fill these theoretical gaps by investigating how Entrepreneurial Leadership influences radical and incremental innovation through internal organizational mediators (IC, DS, KS) and is moderated by external environmental factors (TT, ED, MO). By incorporating both UET and RBV, this study provides a comprehensive framework that explains how leadership behaviours and organizational resources interact with external dynamics to drive innovation performance in Chinese Internet Enterprises (CIEs), contributing to a deeper understanding of leadership and innovation within non-Western contexts.

1.4 Research Questions

Based on the problems identified in the research problem, the following research questions can be formulated:

i. To what extent is the relationship between EL and RI/II mediated by internal organisational channel factors, including innovation culture (IC), decentralisation structure (DS) and knowledge sharing (KS)?

ii. To what extent are the relationships between EL and organisational channel factors (IC/DS/KS) moderated by external factors, including technology turbulence (TT), environmental dynamism (ED) and market orientation (MO)?

iii. How does CEO's entrepreneurial leadership (EL) influence the innovation performance of CIEs, specifically radical innovation (RI) and incremental innovation (II)?

1.5 Research Objectives

The problem identified and the research questions lead to the objective of this study, as addressed in the following description.

i. To examine the mediation effects of internal factors of innovation culture (IC), decentralisation structure (DS) and knowledge sharing (KS) on the relationship between EL and innovation performance of CIEs.

ii. To examine the moderation effects of external factors of technology turbulence (TT), environmental dynamism (ED) and market orientation (MO) on the relationship between EL and organisational channel factors (IC/DS/KS).

iii. To develop an in-depth understanding of how the CEO's entrepreneurial leadership behaviours influence the organisation's innovation performance

based on upper echelons theory and resource-based view in the context of the internet industry in China.

1.6 Significance of Study

This study investigates the influence of CEO entrepreneurial leadership on organisational innovation performance using UET and RBV as a theoretical basis to extend previous academics' research on demographic variables and psychological qualities, which contributes to academic theoretical and practical:

Theoretically, the research validates and extend the upper echelons theory, going beyond demographic characteristics, psychological traits, and cognitive complexity to investigate entrepreneurial leadership's influence on organisations' innovation performance. Beyond that, by incorporating mediating/moderating variables, this study enhances the understanding of the influencing mechanism in the relationship between entrepreneurial leadership and organisational innovation, thus enhancing the precision and validity of RBV in specific.

Practically, the research not only provides actionable guidelines to leaders in CIEs and other industries pursuing innovation but also respond to prior scholars' calls for more leadership paradigms to be considered in entrepreneurial context, especially in eastern countries (Franco and Haase, 2017). Besides, the findings can help Chinese leaders understand the boundary condition of the entrepreneurial leadership on diverse types of innovation (Yang et al., 2019), thus offering deeper insights for leaders to better understand what specific strategies should be adopted regarding the radical or incremental innovation target.

In conclusion, under UET and RBV, this study has examined entrepreneurial leadership's influence on innovation in past often neglected context of CIEs through a systematic mixed method, as well as a thorough literature review on past studies on entrepreneurial leadership, innovation, and mediating and moderating factors. The study attempts to reveal how the CEOs, as the highest-ranking leaders of internet enterprises in China, influences innovation performance through entrepreneurial leadership behaviours. Mixed methods including empirical SEM-PLS analysis and semi-structured interviews were adopted to investigate the relationship between factors, which further addressed the research gap in past on single quantitative or qualitative method adoption by most studies on entrepreneurial leadership. This study has shed light on how to promote innovation performance of firms by CEOs in innovation-driven industries in China, as well as provided suggestions to firms on how to stimulate different innovation types in specific situations by taking a full consideration of organisational channels as mediators and environmental moderators.

1.7 Research Outline

This study begins with introduction on background of this research and then developed the problem statement, to formulate research questions and objectives, followed by literature reviews on each variable to be examined. To conceptualise the variables and their relationship, UET and RBV theories are applied in this study. The hypothetical conceptual framework is then constructed and assessed using both quantitative PLS-SEM statistical analysis and qualitative semi-structured interviews. Finally, the study provides a thorough discussion based on the findings through the mixed-method research.

Therefore, the study is divided into five chapters and briefly introduced below.

Chapter One: Introduction provides an overview of the study's background to explain why research on entrepreneurial leadership's influence on CIEs' innovation performance is significant, and thus propose the research problems, research questions and objectives.

Chapter Two: Literature Review covers key concepts of this study by discussing past seminal studies and latest research on leadership behaviours, innovation performance, and external and internal factors that exist among relationship between entrepreneurial leadership and innovation performance of firms.

Chapter Three: Methodology elaborates on the mixed-method methodology utilised in this study, including statistical analysis and semi-structured interviews. Both the quantitative and qualitative instruments, operations and analysis procedures will be discussed thoroughly in this chapter.

Chapter Four: Findings for Quantitative and Qualitative Studies provides findings that collected from both the quantitative research and qualitative research, where data and interview findings are illustrated by showing the examination results of hypothesis one by one.

Chapter Five, Discussion, Conclusion, Implication and Future Research, is the final chapter that provides the study's conclusions and recommendations for CIEs and researchers by revising the framework of this study. Theoretical and practical contributions, as well as limitations, are discussed, enabling future researchers to do further studies in this field and advance the relevant theories and practices.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter provides a thorough examination of existing literature concerning the relationship between entrepreneurial leadership (EL) and innovation within CIEs. It begins by defining and categorizing various leadership styles, including an exploration of traditional Chinese leadership philosophies and an analysis of the convergence of entrepreneurship and leadership. Additionally, the chapter delves into the concept of innovation performance, distinguishing between incremental and radical innovation, and scrutinizes the influence of CEO's entrepreneurial leadership on fostering innovation outcomes.

Furthermore, it investigates the mediating effects of internal organizational factors such as innovation culture, decentralization structure, and knowledge sharing on the relationship between entrepreneurial leadership and innovation performance. Additionally, it explores the moderating effects of external factors such as technology turbulence, environmental dynamism, and market orientation on this relationship.

Throughout this chapter, theoretical frameworks including Upper Echelons Theory and Resource-Based View (RBV) are utilized to establish the theoretical model for analysis. Moreover, a comprehensive research gap analysis is conducted to identify areas requiring further exploration, leading to the development of hypotheses based on the literature review. Finally, a conceptual framework is proposed to illustrate the intricate interplay between entrepreneurial leadership, internal organizational factors, external environmental dynamics, and innovation performance within CIEs.

2.2 Definition and Classification of Leadership

Executives and board members have been identified as key in determining organisational results in research on strategic leaders, most commonly under the support of the "upper echelons theory" (Hambrick et al., 2015, Hambrick and Mason, 1984). There is a strong case that strategic executives significantly influence the company's overall orientation and future through their strategic decision-making. Researchers have examined how strategic leaders influence the firm's risk-taking conduct, strategy implementation, strategic flexibility, mergers, or corporate social responsibility attempts. For example, Simsek et al. (2015) found that risk-taking behaviour is influenced by the firm's strategic leaders (Petrenko et al., 2016). The job of a leader contains three primary duties and activities: creating direction (e.g., clarifying the big picture, motivating and inspiring, and constructing tools and approaches), collaborating with individual persons (e.g., creating circumstances that aid in combining communities and collaborations), and concentrating on results (Pauceanu et al., 2021a). Leaders are often thought of as those who try to affect the behaviour of the people and groups around them (Antonakis and House, 2013, Antonakis et al., 2003). To most people, leadership inspires and motivates others to achieve an organisation's goals (Esmer and Dayi, 2016). To be a leader, one must be able to influence people and direct them toward specific aims and priorities. A leader's job is to influence and guide a collection of individuals on the proper path. A leader uses his/her unique/(or) inherent talents to achieve the organisation's goals by influencing the group's people (Bass, 1996).

Studies on leadership began in the early 20th century. However, in the middle to late 1970s, when new leadership theories arose, the academic discipline of leadership research became more rigorous (Hunt, 1999). Enterprises were forced to adjust swiftly in the 1970s and 1980s, corresponding with the industrialised society's transition to a post-industrial

society, as science and engineering rapidly advanced (Wilkinson, 2020). Additionally, executives at all levels of the business started to aggressively investigate new ways of stimulating members' engagement and excitement, effectively enhancing the firm's overall performance (Kansikas et al., 2012). As a result, the "transformational leadership" and "charismatic leadership" have had a tremendous influence on subsequent studies and the theoretical viewpoints and analysis frameworks. Empirical and theoretical research studies have been conducted by various experts, resulting in theories such as model leadership, visionary leadership, and so on. "New leadership theories" contributed to leadership studies in the 1980s (Kansikas et al., 2012, Benmira and Agboola, 2021).

Throughout the 21st century, Western academics have steadily evolved from a heroic notion of leadership to a more holistic debate of how organisations might achieve effective leadership (Ngayo Fotso, 2021). Researchers and business executives have concluded that companies, particularly knowledge-driven ones, require leaders who can lead more effectively (Pellegrini et al., 2020). Since the need for leadership theory in practice has increased, studies on the subject have grown unparalleled.

However, studies have revealed that distinct forms of leadership behaviour have significant theoretical and empirical overlap concerning both form and substance (Antonakis and House, 2014). Yukl et al. (2002) incorporated the theoretical accomplishments of leadership behaviour for half a century, verified that three dimensions exist, divided leadership behaviours into three dimensions of task, relation, and change, and explained the behavioural factors comprised in each of these three dimensions. Based on that, Dehghanan et al. (2021) updated the three-dimensional task-relationship-change model, allowing it to group leadership with a matrix. Based on dimensions of relationship and duty, the following

four leadership clusters can be presented (Dehghanan et al., 2021) and shown in Figure 2.1: Network of Leadership Styles and relationship:

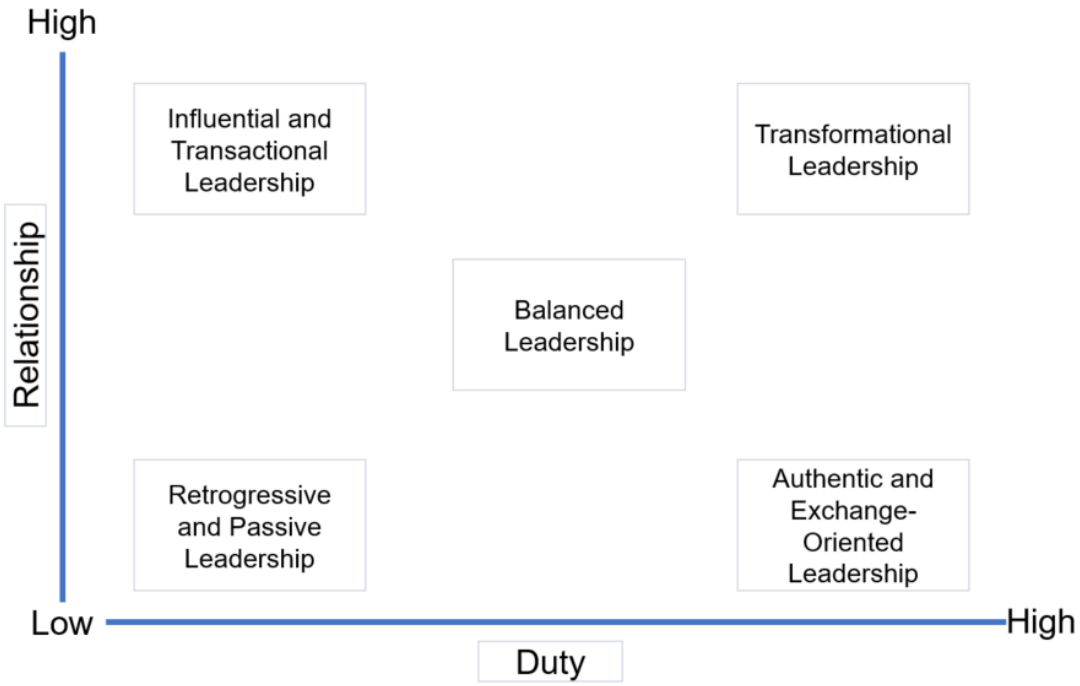


Figure 2.1: Network of Leadership Styles

Retrogressive and passive leadership styles: A negative leadership style is formed when the levels of both task and connection are at their lowest. It is a negative leadership style. Toxic, destructive, corrupt, selfish, exploitative, derivative, egotistical, and dictatorial characterise this kind of leading style.

Authentic and exchange-oriented leadership styles refer to a high level of task orientation and a low level of connection. This paradigm effectively evokes transactional leadership, which is also congruent with transactional leadership approaches.

Influential leadership styles: It refers to the leadership style characterised by a low level of task orientation and a high level of relationship, including charismatic, transformational, ethical, servant, leader–follower exchange, spiritual, paternal, humble, and

secure leadership. These leadership styles, which are less task-focused, are primarily concerned with building strong connections with their followers, fostering high levels of contact and trust in them, supporting and empathising with workers and followers, and motivating them.

Transforming leadership styles: It refers to the style emphasising task and relationship in the leader–follower interaction. It involves entrepreneurial and genuine leadership. As a result of this leadership style, relationship and task alignment and constructive collaboration are achieved, and the company undergoes a fundamental transformation. This leadership style directly influences the corporate innovation climate, demonstrates high ethics, prioritises the group's interests, and is founded on open communication and information sharing.

In conclusion, although various leadership theories emphasise distinct factors, they all agree that leadership is constantly developing in response to social and industrial development and favourably influences diverse organisational performance to some level (Hunt and Fedynich, 2019, Rzepka and Bojar, 2020). Considering the rising complexity of an organisation's internal and external environments, leaders should strengthen their leadership skills to encourage stakeholders to meet the difficulties posed by complicated matters collectively.

2.2.1 Management and Leadership

The phrases management and leadership are frequently interchanged despite each term conjuring up a unique set of connotations (Musyoka and Sloan, 2023). Managers exhibit leadership, while leaders typically have managerial skills (Bass, 1990, Mintzberg and Waters, 1982). Historically, leadership was used in social and political contexts to a far

greater extent. Leadership has been increasingly visible in the workplace and, in many organisations, has been given a position raised above that of managing (Zaleznik, 1977). Bennis and Nanus (1985) are credited with making the now-famous argument that "managers do things right" whereas "leaders do the right thing." Managers are responsible for maintaining order and uniformity, and they are experts, administrators, and problem-solvers. On the other hand, a leader acts as both a prophet, a catalyst and a strategist. Similarly, Kotter (1990) focused more on leadership than management and relegated management to a secondary position. In this view, managers are more logical and controlling and connect to structure, stability, and bureaucracy. On the other hand, leadership is less concerned with exerting control and more concerned with things like enthusiasm, ambition, creativity, and working together.

In contrast, academics have lately portrayed management critically (Pellegrini et al., 2020, Schermerhorn Jr and Bachrach, 2020). Even though this collection of writing is eclectic, philosophically broken, and vastly diverse in methods and ontological assumptions, these works are united by hostility. The emphasis on "non-performative goal" is central to these critical approaches, as Fournier and Grey (2000) outlined. The authors cited Lyotard (1984) in their discussion of performative aim. They characterised it as "the desire to produce and celebrate knowledge that results in maximal output for little input" (Fournier and Grey, 2000). In contrast to Kotter (1990) and Zaleznik (1977), critical management studies have often attempted to critique and negate the assumption of performative managerialism, focusing on ethics, power structures, and sustainability.

Critics of strategic management, exemplified by scholars like Ezzamel and Willmott (2016), argue that the discipline's success depends on two critical factors. Firstly, it relies on

the authority that represents it, and secondly, on its ability to persuade others of the validity of its assertions. These assertions are not grounded in objective truth but instead resonate with the beliefs and values held by individuals or groups. As Ezzamel and Willmott (2014) emphasised, it is essential to recognise how strategy, as a discourse, and its embodiment as 'strategic management,' contribute to shaping the social reality they are supposed to explain or justify.

According to Snippe and Kara (2023), a fundamental challenge for organisational management lies in adapting the organisation's strategy and key performance indicators to the ever-changing interplay of internal and external factors. Their conclusion is based on empirical evidence derived from four comprehensive case studies. They found that the critical factors affecting an organisation's ability to adapt include internal politics and leadership, corporate culture, external competitive pressures, and technological advancements. Acknowledging the dynamic interactions between these factors is crucial to facilitate the flexible development of management strategies that align with evolving contexts and overall business objectives. In contrast to rigidly adhering to static and inflexible formulas, recognising the dynamic interplay between these components is imperative for creating adaptable management solutions (Snippe and Kara, 2023).

The debate over whether leadership or management holds greater importance continues, with researchers arriving at different conclusions. Quantitative studies have explored the influence of transformational leaders on company performance, employing sequential decomposition of variance techniques to identify factors contributing to fluctuations in profitability (Vuong et al., 2023, Eng et al., 2023, Cui et al., 2023, Nguyen et al., 2022) . The findings from such research indicate that transformational CEOs positively

affect the success of their companies. This ongoing discourse led Schedlitzki et al. (2018) to argue that "leadership" and "management" often denote the same concept but use different terminology to convey this idea. Mintzberg (2013) further emphasised that in contemporary society, it is challenging to be an effective leader without displaying management skills and equally arduous to be a successful manager without demonstrating leadership abilities. This body of research underscores the interdependence of "management" and "leadership," which can be intertwined and easily confused.

In short, the evolving demands placed on management over the past four decades have subjected the definitions of effective leadership and the associated expectations to scrutiny. Modern businesses have grappled with the challenge of responding to increasing social complexity and unpredictability by developing more internal organisational structures (Trist, 1983, Bass, 1990). Trist (1981) underscored that authoritarian control structures, with their tendency to devalue human resources, are ill-suited to absorb escalating global complexity and environmental volatility. The various definitions and conceptualisations of management and leadership that have emerged due to this debate have often converged (Mintzberg, 2013).

Considering this evolving landscape, it becomes evident that the discourse surrounding leadership has gained prominence (Cinnioğlu, 2020). The need for adaptive strategies, dynamic responses to internal and external factors, and the positive influence of leaders on organizational success underscore the growing importance of leadership in comparison to traditional management paradigms. In the subsequent discussion, the features of the most cited leadership styles, derived from the evolution of leadership theory and assessed in the present articles within the WOS database are examined.

2.2.2 Individual Leadership

Previous studies examine the concept of leadership as it relates to an individual's traits. This school of thought embraces a positivist theoretical framework. It conducts exhaustive research to determine the aspects of a person's personality contributing to their leadership efficacy. For example, Bennis and Nanus (1985) spent one hour in individual interviews with each of the 90 leaders. These interviews lasted for a total of 90 minutes. Sixty interviews were done with influential business executives, while the remaining thirty were with outstanding public figures, including university presidents, lawmakers, government officials, and even the head of a symphony orchestra. The participants, who were mainly male, were analysed by contrasting how their personalities were different and like one another. By continually re-examining the data and looking for commonalities, the authors could identify and quantify patterns in the underlying themes in the data. Four core areas of competence began to take shape over time: the ability to create and sustain a compelling vision, the ability to communicate effectively, the ability to build and sustain trust, and the ability to positively manage oneself (i.e., to tailor one's strengths and weaknesses to the needs of the organisation).

In one of the more recent bodies of research on individual leadership, Pearson-Goff and Herrington (2014) conducted a systematic review of research on police leadership to study the personal characteristics that are associated with effective leadership among police officers. The authors have identified seven critical characteristics deemed crucial for police leadership based on the summarisation and synthesis of pertinent peer-reviewed journal articles. These characteristics are ethical behaviour, effective communication, serving as a role model, trustworthiness, legitimacy, proficient decision-making, and the capacity for critical, creative, and strategic thinking. Nichols and Cottrell (2014) conducted a study to

examine how individuals' expectations of a leader evolve based on the leader's position within an organisation. First, the individuals who took part in the research were asked to rank the characteristics they considered to be possessed by their present supervisor and the characteristics they considered to be characteristic of a leader in that capacity in general. Second, the participants were asked to assess how desirable it was for six high-level and low-level leaders to possess these similar attributes. Third, participants were asked to build ideal high- or low-level leaders to coerce them into prioritising specific characteristics. According to the study's findings, participants consistently valued trustworthiness and intellect in their leaders, but their preferences varied regarding other characteristics depending on the leaders' seniority level.

Casimir and Waldman (2007) conducted research along these lines in the context of China. They compared participants' assessments of the relative relevance of characteristics for effective low- and high-level leaders. Their research involved the participation of eighty-four full-time white-collar workers from Australia and 244 full-time white-collar workers from China. The findings of a multivariate study revealed that there are cultural disparities in the characteristics that are viewed as desirable for effective leadership. For instance, compared to the Chinese, Australian’s value characteristics that reduce the power disparity between leaders and followers. People from both cultures, however, placed a higher premium on charismatic and visionary leadership among high-level officials. As a result, the study's findings led researchers to conclude that the perceived relevance of leadership attributes is partly controlled by interpersonal norms supported by the culture and partly by the needs of the leadership job. Conscientiousness, extraversion, dominance, self-confidence, energy, agreeableness, intelligence, openness to experience, and emotional stability were identified as the typical characteristics of a good leader by Kets de Vries (1994). After

studying the organisational literature on leadership, Kets de Vries (1994) also found that a good leader should be dominant.

In conclusion, while scholars have conducted extensive research on leadership focusing on individual traits, the findings suggest that distinct traits tend to manifest in various situations. This variation implies a lack of universal consensus regarding the optimal combination of traits for effective leadership. Recognizing the contextual nuances inherent in leadership, next part investigates the field of contextual leadership, which acknowledges the dynamic interplay between leadership attributes and the specific situations in which they are applied. This approach seeks to unravel the intricacies of leadership effectiveness within diverse contexts, offering a nuanced perspective that goes beyond a one-size-fits-all understanding of leadership traits.

2.2.3 Contextual leadership

In organisational psychology, contingency theories held sway as the dominant school of thought on leadership until the early 1980s. Contingency researchers, such as Fiedler et al. (1984) and Tannenbaum and Schmidt (1958), emphasised that leadership style is contingent on the context and may only be universally effective in some organisational and cultural settings. Conversely, individual leadership perspectives tended to propose a "one best approach" to managing followers, which seemed less comprehensive when contrasted with the multifaceted nature of leadership as described by contingency theories.

Tannenbaum and Schmidt (1958) expanded on previous research in group dynamics within structured training environments, identifying three situational forces that determine the appropriate leadership style—democratic, autocratic, or intermediate. These forces include managerial factors (personality traits, values, interests, attitudes towards employee

engagement, and trust in subordinates), subordinate factors (desire for autonomy, tolerance for uncertainty, understanding of the issue, and expectations for participation), and organizational factors (norms, work group distribution, cooperation effectiveness, and the nature of the challenge). This framework underscores the interplay between leadership style and the multifaceted contextual forces within organizational dynamics.

Fiedler (1967) developed The Contingency Model following extensive research into the relationship between effective leadership and overall organisational performance. In this model, the author differentiated between leaders who assigned structured and unstructured tasks to their subordinates. The model underwent statistical testing across various group settings. These settings ranged from controlled laboratory groups formed for research to ongoing teams from frontline workgroups to executive boards. Collectively, the data supported the notion that leaders must adapt to their specific context to determine the circumstances under which their preferred leadership style is most likely to succeed. Hersey and Blanchard (1988) added to this discussion, emphasising that influential leaders must possess strong diagnostic skills. In contrast to Fiedler (1967), they argued that leaders should adjust their approach to align with the demands of their context. This approach was coined "Situational Leadership" by these authors, and it breaks down effective leadership behaviours into two categories: task behaviour and supportive behaviour.

Even though one of the most fundamental premises of contingency theory is that no leadership style is inherently superior to others, according to Huczynski et al. (2013), this is because of a long-term social and political tendency in Western nations, which has increased individuals' expectations regarding the quality of their working lives and their degree of personal freedom. These norms of society and politics encourage people to stand up against

the manipulation of faceless bureaucracy and weaken the credibility of managerial decisions. Moreover, these values call into question the efficacy of management. However, more research has to be done to determine how accurate this assumption is in Chinese economic situations since the surrounding sociocultural framework is not democratic. Hempel and Martinsons (2009) examined the effects of organisational transformation in eight global companies through case studies. They discovered that Chinese organisations regularly deviated from the initially anticipated modifications. This study was part of a more recent group of contingency studies. It was discovered that context influenced the change process and the change's substance and aims. Because of this, the authors claimed that multinational organisations need to acknowledge that a specific type of policy or leadership style might signify distinct changes depending on the context in which it is implemented, particularly in China. An additional key finding from the study was that "the change to be implemented involves implicit values that differ greatly from current organisational values," causing "much opposition and difficulty owing to these value incongruences."

According to Reiche et al. (2017), comparing global leadership roles that are fundamentally distinct from one another is a risk posed by an inadequately defined and conceived view of contextualisation. The authors established a categorisation of worldwide executive positions that considered setting an essential contingency component to encourage more coherence between theoretical and empirical clarity. They suggested four ideal-typical roles for global leaders, drawing on theories of role and complexity leadership: (1) accumulative, (2) operations and maintenance, (3) collaborative, and (4) integrative global leadership. It appears such jobs had been distinct in at least two primary respects: in the difficulty of the tasks they were assigned, which included describing the wide range and fluctuation within the context of the tasks, and in the difficulty of the relationships they had

with one another, which reflected the boundary lines and interdependencies within the context of the relationships. Both difficulties were reflected within the context of the jobs.

However, the contextual leadership theories were criticised by Huczynski et al. (2013) for several reasons. To begin, they have neglected to consider important factors and circumstances, including the culture of the organisation, the extent of transformation that is taking place, the stress levels that are being experienced, the employment conditions, the external macroeconomic indicators, the organisational structures, and the technology that is being utilised. Second, it is difficult to accurately assess the environment in which leaders are expected to operate due to the ambiguous nature of the theories' proposed contextual factors. Third, managers' personalities sometimes prevent them from being participatory in certain situations and directive in others. This could be attributed to specific characteristics of one's personality. Finally, the expectations of other managers might affect what is considered "acceptable," and shifting one's approach from one scenario to another could not inspire faith and confidence. Building on the discourse surrounding contextual leadership theories and the critiques raised by Huczynski et al. (2013), the narrative shifts to the emergence of a transformative movement recognized as "new leadership". In the subsequent section, the study explores the key tenets and characteristics of this emerging "new leadership" approach.

2.2.4 Transformational Leadership

A movement that would later become known as "new leadership" had its start around the beginning of the 1980s. During this conversation on leadership, it was realised how important it is for leaders to be bold, influential, insightful, and compelling (Huczynski & Buchanan, 2013). The phrase "super leader" refers to someone who can "guide others to lead

themselves." In contrast, the term "new leader" refers to an inspirational figure who inspires followers to greater levels of achievement. According to Sims Jr and Lorenzi (1992), this is one of the primary reasons why the phrases "new leader" and "super leader" are frequently connected with the idea of "transformational leadership."

Based on an analysis of previous research that had been done on political leaders, Burns (1978) developed a theory that differentiated between a transactional leader and a transformational leader. In contrast to transactional leaders, transformational leaders are charismatic individuals who motivate and encourage others to perform "beyond agreement." Transactional leaders view their interactions with followers as trading activities, exchanges, or bargains. To explain how leaders may move their people beyond narrow self-interest and bring forth their best work, Bass (1985) presented four transformational leadership aspects and two transactional leadership variables. Later, Bass and Avolio (1993) extended the research to include nine more components of lower order. Research on transformational and transactional leadership has extensively used the Multifactor Leadership Questionnaire among academics (MLQ-5X). This questionnaire was developed using Bass (1985)’s factor analysis to assess the many facets of comprehensive leadership. The most recent version of the MLQ-5X has thirty-six questions, with four questions devoted to each of nine scales.

Ravet-Brown et al. (2023). Transformational leadership is widely accepted and routinely applied in entrepreneurship contexts, its explicit examination in relation to entrepreneurial leadership (EL) is particularly relevant. Transformational leadership is the predominant leadership style applied in entrepreneurship studies, predicting entrepreneurial creativity and performance (Harsanto and Roelfsema, 2015). Furthermore, the three prominent measures of entrepreneurial leadership have relied on transformational leadership

during their conceptualization, emphasizing sub-facets such as visionary leadership and encouraging novel thinking. The recent study conducted by Ravet-Brown et al. (2023) highlights a growing trend in the intensification of the intersection between transformational leadership and entrepreneurial leadership.

2.2.5 Distributed leadership

The concept of distributed leadership emerged to describe a leadership style that seeks to maximise the varied skills within a group (Gronn, 2002). This type of leadership is a response to the dynamic post-industrial work environment, which cannot be effectively managed through a hierarchical, command-and-control, expert-based organisational structure (Bolden, 2011). According to Youngs (2020), leaders should cultivate an organisational culture that encourages the development of "leaderful" behaviours. This means all employees should be expected to contribute as group leaders.

Goleman (2002) introduced the concept of "distributive leadership," which suggests that anyone at any level within an organisation can be considered a leader in some capacity. Supporting this notion, Elmore (2000) argued that the only way to manage complex tasks in information-rich firms is to distribute leadership responsibilities across various positions within the organisation broadly. His use of the term "knowledge-intensive" underscores this perspective. Distributed leadership has connections to both "distributed cognition" (Hutchins, 2000) and "activity theory" (Gronn, 2000), with Hutchins (2000) being credited as the originator of these concepts. These ideas build upon earlier work by Vygotsky and Cole (1978). The concept of distributed cognition suggests that human cognitive capabilities are not confined to individual minds but are embedded in social networks, daily routines, and material possessions.

However, distributed leadership has certain drawbacks, one of which is that the talents and efforts of people participating are only sometimes given the credit they deserve (Hewlett et al., 2005). Furthermore, Keller and Willert (2015) emphasised how distributing power and control from the centre to the edges can, in certain circumstances, create a great deal of anxiety and chaos. The successful implication of distributed leadership typically necessitates a "Messiah leader" willing to start, arouse, and encourage change while being ready to hand over power when the change is effective.

2.2.6 Post-modern leadership

Collins (2001) and Podolny et al. (2004) have raised questions about the significance of traditional leadership models. They have observed that the rise of "celebrity CEOs" can lead to initiative fatigue and organisational instability due to sudden and drastic changes. Huy (2002) challenged the necessity for visionary leadership and suggested that middle management plays a crucial role in balancing the need for transition and stability. He argued that radical top-down changes can disrupt this equilibrium. Khurana (2002) expressed scepticism about the notion of the "heroic" CEO who saves struggling enterprises and instead emphasised competent managers with strong change management skills as essential components of effective leadership. Khurana (2002)'s perspective on leadership challenges the idea that leadership is primarily about performance and success. He argued that leadership should be rooted in meaning and not divorce itself from semantics and rhetoric. According to post-modern thinkers, leadership is socially constructed through language and emphasises symbolic and virtual dimensions (Ospina et al., 2020, Abbas et al., 2022). This backlash against the concept of "new leaders" questions the traditional hierarchy of leadership and management. While earlier perspectives, like Kotter (2008), emphasised leadership over management more, this counterargument suggests that managers might be

more effective in driving change, whereas leaders may introduce instability (Ezzamel and Willmott, 2014).

Existing leadership theories are regularly re-evaluated to fit the changing demands of the area of practice. Scholars during this period, for example, investigated the meaning, framework, and moderating variables of "good leadership," leading to the rise of new leadership theories, such as organic leadership, shared leadership, authentic leadership, moral leadership, service-oriented leadership, humble leadership, and entrepreneurial leadership, which are all examples of modern leadership theories (Vinkhuyzen and Karlsson-Vinkhuyzen, 2014).

These new leadership theories reflect the evolving nature of leadership in contemporary organizations. For instance, authentic leadership emphasizes the alignment between a leader's internal values and external behavior, fostering trust and ethical decision-making. Shared leadership disperses leadership roles among team members, enhancing collaboration and collective decision-making. Moral leadership focuses on ethical conduct and integrity, ensuring that leaders act with high moral standards. Service-oriented leadership prioritizes meeting the needs of others, promoting a supportive and caring environment. Humble leadership encourages leaders to acknowledge their limitations and learn from others, fostering a culture of continuous improvement. Lastly, entrepreneurial leadership drives innovation and risk-taking, propelling organizations towards groundbreaking developments. As a summary, this study analyzed and determined the most popular leadership styles in the last five years from WoS, with each of these leadership styles being linked to the relevant sources, as shown below in Table 2.1:

Table 2.1: Popular Leadership Styles in The Last Five Years from WoS

Leadership	References	Definitions
Transformational leadership	(Dehghanan et al., 2021),	Theoretically, there are four dimensions to this. Influenced by ideals of inspiration, motivation, intellectual stimulation, and personal attention.
Transactional leadership	(Dehghanan et al., 2021)	Management by exception (active) and management by exception (passive) are all components of transactional leadership.
Empowering leadership	(Zheng et al., 2023)	Delegation of responsibility, encouragement of self-directed and autonomous decision-making, mentoring, sharing information, and asking for input are all part of empowering leadership.
Autocratic leadership	(Shaw, 2022)	Leaders who abuse their positions of authority and power are known as autocrats. Capricious, nasty, and reliant on their authority, they are prone to mood swings.
Authentic leadership	(Al Marshoudi et al., 2023)	Encouraging the development of self-awareness, the internalisation of moral values, the integration of knowledge, and the transparency of relationships between leaders and their followers are all pillars of authentic leadership.
Servant Leadership	(Mcquade et al., 2021)	Servant leadership prioritises the growth of others over the advancement of the leader's position and thus devalues the importance of the leader's position in the organisation.
Authoritarian leadership	(Pizzolitto et al., 2023)	An authoritarian leadership style is influenced by Chinese legalism, which emphasises incentives or penalties and the centralisation of authority and complete control.
Paternalistic leadership	(Bedi, 2020)	East Asian societies, particularly those in China, have a long history of paternalistic leadership. Vertically like a parent, a leader influences his or her subordinates.
Entrepreneurial leadership	(Mehmood et al., 2021)	It is defined as "organising a group of people to achieve a common purpose by optimising risk, innovating to take advantage of opportunities, accepting personal responsibility and managing change in a dynamic environment for the benefit of [an] organisation."

However, in the context of China, the Chinese culture is very different from the Western, which also, to some extent, affects the leadership behaviours of leaders working in China. Therefore, the next part will also discuss under which values or philosophies the leadership style will be constructed in this cultural context.

2.3 Leadership Philosophies in China

The religious beliefs in ancient China were rooted in shamanism, dating back over eight thousand years (Williams, 2020). Shamanism was centred on the idea that a shaman could bridge the gap between the inner and outer worlds, connect the physical body with the spirit area, and link the living with the deceased. Over time, shamanism evolved into two major belief systems in China, Confucianism and Daoism, which have influenced Chinese culture and philosophy for millennia (Rošker, 2020).

During the Zhou dynasty, which spanned from 841 to 256 BCE, China experienced significant political and social changes. The dynasty began to disintegrate, leading to the emergence of various rival states throughout the region. This period of political fragmentation and social turmoil coincided with the rise of different philosophical schools of thought, collectively called the "Hundred Schools of Thought" (Littlejohn, 2021). Each school, or "jia," was led by its master, or "zi," and consisted of scholars and disciples who explored and taught various philosophical and ideological perspectives. These thinkers often served as advisors to rulers, offering guidance on matters related to governance and societal order as they sought ways to consolidate power and restore stability (Rogacz, 2022).

The study will examine some fundamental principles guiding Chinese leadership in this part. Because China has such a long and eventful history, the literature evaluated was chosen considering what the most eminent academics believe to be the factors that have the

most influence on Chinese businesspeople in the modern day. To thoroughly explore the nuanced dynamics between CEO's entrepreneurial leadership and innovation performance in CIEs, this study conducts an in-depth examination of Chinese leadership philosophies, namely Confucianism, Daoism, Legalism, and Communism. These foundational cultural ideologies play a pivotal role in shaping leadership styles, organizational practices, and the broader socio-political context, providing a comprehensive framework to understand the multifaceted influences on entrepreneurial initiatives and innovation outcomes.

2.3.1 Confucianism

Confucianism has had a profound and enduring influence on the values and principles that underpin contemporary Chinese society. Researchers such as Yuan et al. (2023) and Sun (2020) have studied Confucianism's far-reaching influence across various domains, including legal systems, education, cognitive patterns, ethics, economics, and leadership. Understanding Confucian leadership is crucial in comprehending the cultural context of Chinese business practices. This exploration of Confucian leadership focuses on three critical aspects of Confucianism. Firstly, the concept of leadership within Confucianism places paramount importance on ethical considerations. Confucian leaders are not only vested with authority but are expected to embody moral virtues, including benevolence (ren), righteousness (yi), and propriety (li). They function as exemplars, setting high moral standards that extend beyond the exercise of power to encompass moral character and integrity (Yuan et al., 2023). Secondly, the Concept of Hierarchy and Collectivism in Confucianism underscores the significance of hierarchical social structures prevalent in family, workplace, and government settings. Respect for authority and seniority is a foundational tenet of Confucian ethics. Leaders, adhering to this framework, are tasked with demonstrating humility and respect towards their superiors, while concurrently providing

guidance and care to their subordinates. The Confucian leadership role is characterized by harmony, seeking consensus, and fostering social equilibrium rather than adopting a dictatorial approach (Sison et al., 2020). Lastly, the Concept of Caring and Guanxi is promoted in Confucianism, encouraging leaders to display genuine concern for others and cultivate strong interpersonal relationships (guanxi). Confucian leaders prioritize the well-being of their followers, nurturing a sense of trust and loyalty. The concept of guanxi, grounded in reciprocity and mutual obligations, holds particular significance in Chinese business relationships.

An organisation rooted in Confucian principles inevitably adopts a structured hierarchy, operating with a top-down approach to authority. Scholars contend that hierarchical systems cultivate dependency and define roles more explicitly. This structure effectively governs social behaviours, including allocating tasks and responsibilities to specific positions (Yuan et al., 2023). Zhang and Han (2021) underscore that Confucianism often leads to two tendencies, hierarchy, and collectivism, forming "vertical collectivism." These tendencies are intricately linked with Confucianism, which recognises the components of hierarchy and community, characterising this as "relational individualism (Chu and Moore, 2020)."

In the examination of Confucianism, a foundational pillar of Chinese philosophy, its profound influence on the entrepreneurial leadership landscape in CIEs becomes evident (Lee et al., 2022). The essence of Confucian values, rooted in moral leadership and benevolence, contributes integral components to the DNA of entrepreneurial leadership in China. Leaders, shaped by Confucian ideals, embody key entrepreneurial traits such as ethical decision-making, visionary mentorship, and a steadfast commitment to the collective

well-being of their teams. The emphasis on social harmony and trust-building within Confucian philosophy aligns with the collaborative and innovative aspects inherent in entrepreneurial endeavours. This philosophical framework not only affect leadership styles but also influences organizational practices that prioritize harmonious relationships, loyalty, and a profound sense of duty. As the past research unravel the connection between Confucianism and the entrepreneurial leadership ethos, it provides valuable insights into the unique qualities that define leadership in Chinese organizations. This understanding serves as a crucial foundation as this study transition to the exploration of Daoism next, continuing the narrative of the philosophical evolution influencing contemporary business dynamics.

2.3.2 Daoism

The ancient philosophy of Daoism, often referred to as Taoism, as asserted by Suresh (2022), can shed light on contemporary Chinese business leadership styles and behaviours. Zhou et al. (2022) also contends that Daoism, in conjunction with Confucianism, plays a pivotal role in Chinese business and leadership philosophies. Daoism was historically a significant philosophical underpinning for Chinese governance and leadership. However, the extent to which Daoist philosophy continues to influence modern Chinese corporate leadership remains ambiguous. There is a prevailing misconception that China's foundations are rooted solely in Confucianism. This misconception arises from the inherent complexity of the concept itself and the fact that many comparative studies in China have focused on Confucianism. However, studies have argued that Chinese corporate cultures are multifaceted and cannot be attributed solely to the influence of Confucianism (Niedenführ and Hennig, 2022).

Daoism is the oldest religious practice in China and among the world's most ancient belief systems. The process of codifying Daoism is typically traced back to the Chou (Zhou) Dynasty (1122–225 BCE), particularly during the tumultuous "Warring States Period" (475–221 BCE). During this era, foundational Daoist texts such as the Tao Te Ching and the Chuang Tzu were compiled and recognised as two of the most significant Daoist works. This period also witnessed the composition of The Art of War by Sun Tzu, regarded as a Daoist classic on military strategy (Maspero, 1981). The Tao Te Ching is now the second most translated book globally, following only the Bible, and has served as a source of inspiration and guidance for scholars and thinkers for two millennia. Various levels of the Chinese government often consulted Daoist sages, and numerous Chinese officials, particularly during the Tang Dynasty (618–906 CE), considered the pinnacle of Chinese culture, were Daoist practitioners who sought to apply Daoist principles to their governance. This period is renowned as the Golden Age of Chinese Culture (Hinton, 2020).

Daoism encompasses a wide array of theories and practices that, when combined, offer a pathway to inner peace. Daoist practices encompass various activities, from traditional Chinese medicine and acupuncture to dietary guidelines, meditation, breathing techniques, martial arts, herbal remedies, qigong, and tai chi ch'uan (taijiquan). These practices, encompassing cultural pursuits like calligraphy, poetry, and painting, engage millions worldwide seeking improved health, longevity, and personal growth. Moreover, for millennia, Daoist principles rooted in virtue ethics have been a guiding framework for the selection and development of leaders in China, tracing its origins back to the Daoist era. Thus, delving into this historical approach and its underlying rationale offers an intriguing perspective when examining contemporary leadership development approaches in China (Tan, 2023).

The essence of Daoist philosophy lies in its fundamental concept that the universe consists of a delicate interplay between two opposing yet inseparable forces. These forces, known as yin and yang, exist in a perpetual dance of mutual dependence, since one cannot exist without the other. Yin embodies feminine energy and intuition, while yang embodies masculine energy, rational thought, hardness, expansion, and assertiveness (Tan, 2023, Bai and Morris, 2014). Interestingly, each contains a trace of the other within. Yin contains elements of yang, and vice versa. Moreover, they transform into each other as they reach their maximum potential. It is crucial to maintain a harmonious equilibrium at the still point of their interaction (Hennig, 2017). Consequently, everything in existence undergoes an unceasing cycle of change, each phase revealing a new facet of its character (Bai and Morris, 2014).

A central tenet of Daoism revolves around embracing apparent contradictions. In logic, a paradox may initially seem nonsensical or contradictory, but, in reality, both seemingly opposing aspects can hold true (Davis, 2004). Daoist philosophy underscores that the balanced tension resulting from the interplay of contrasting forces, such as day and night, heat and cold, tension and relaxation, positivity and negativity, expansion, and contraction, is essential for maintaining a state of equilibrium. This continuous cyclical flow between opposing phenomena is intrinsic to nature and forms the foundation of all human endeavours (Hennig, 2017). Scholars, including Bai and Morris (2014) and Davis (2004), contend that Daoist philosophy finds resonance in today's fast-paced and complex global corporate landscape, where adeptly navigating and leading change is paramount. This affinity arises from Daoism's profound emphasis on comprehending and adeptly managing change.

Tan(2023) posits that wu wei leadership thrives in an environment with an inspiring atmosphere, where employees feel encouraged and have some latitude to explore their innovative approaches to problem-solving. Wu Wei leaders are recognised for their composed demeanour, ability to collaborate, and reluctance to claim undue credit for their achievements. Broadly, Daoism places a strong emphasis on power and leadership as the primary means through which human interactions and social structures are enabled. The Daoist perspective on effective leadership underscores the importance of fostering an environment that promotes cooperation, equality, and harmony (Hennig, 2017). Bai and Morris's (2014) work, "Daoist Leaders Possess Loving and Caring Traits That Supply Energy," suggests that Daoist leaders are distinguished by their warmth and compassion, qualities that energise their teams. Employees often laud these leaders as charismatic and attribute the company's progress to the CEO's cheerful outlook. Thus, according to the Daoist concept of leadership, establishing a network of care and trust resulting from the leader's and the followers' collaborative efforts is one of the most critical factors contributing to success (Bai & Morris, 2014). Several academics (ibid) have claimed that an improved comprehension of Daoism may contribute to the study of contemporary leadership in China. According to the Daoist point of view, leadership is a phenomenon in human society built around the interactions between different individuals. The primary precept of Daoism is that there must be a constant, coordinated, and interconnected interaction between internal polar forces that struggle with one another.

In conclusion, the exploration of Daoism unveils its distinct contributions to the entrepreneurial leadership fabric within CIEs. Daoist principles, emphasizing spontaneity, flexibility, and alignment with the natural order, infuse the DNA of entrepreneurial leadership in China with a unique set of attributes. Leaders influenced by Daoist philosophy

exhibit a capacity for adaptive decision-making, a keen sense of timing, and a willingness to embrace change. The fluid and dynamic nature of Daoist thought resonates with entrepreneurial qualities such as resilience, creativity, and a propensity for seizing opportunities. This philosophical framework not only shapes leadership styles but also influences organizational practices, fostering an environment that encourages experimentation and a non-prescriptive approach to problem-solving. Understanding the interplay between Daoism and entrepreneurial leadership enriches the comprehension of the diverse leadership approaches within Chinese organizations. This sets the stage for exploration of Legalism, continuing the narrative of how historical philosophies continue to shape the contemporary business landscape in China.

2.3.3 Legalism

Numerous scholars assert that legalism has significantly influenced contemporary Chinese perspectives on leadership. The "Supreme Exponent of Legalism," Han Fei Tzu, lived during a tumultuous period from 280 to 233 BCE, over three centuries after Confucius. This era was marked by severe chaos and conflicts among various Chinese (Witzel, 2016). The King of Zhou sought obedience from all these kingdoms, and military might, rather than moral principles, became the primary determinant of conflict success. It was in this context of authoritarian rule and stringent regulations that legalism played a pivotal role in unifying China into a centralised empire. This section explores legalism's themes of laws, authority, and control.

Hanfei claimed that there are three components necessary to properly administer a kingdom (Ma and Tsui, 2015): Shi ('momentum,' which means holding authority), Shu ('method,' which means implementing, managing, and monitoring), and Fa ('law,' which

means rules and policies). The central tenet of legalism is that because individuals try to avoid engaging in behaviours that would get them punished, an effective leader should formulate and widely disseminate stringent regulations and laws that apply to everyone. In exchange, subordinates will conduct themselves orderly. Scholars have emphasised that only the top leaders should possess control, particularly over reward and punishment. Consequently, for rules to be consistently implemented, leaders must oversee their managers successfully. If workers do an excellent job, managers get credit for it, but if they do not, they decide who is to blame and how much they should be punished (Bell, 2023). Legalists, in contrast to Confucians, did not care about preserving traditional moral values and instead, they advised the ruler to improve life through administrative reforms, including strengthening the central government, instituting mandatory military training, and increasing food production. Furthermore, unlike Confucianism, adherents of legalism believe that all rulebreakers should be subject to the same penalty regardless of their relationship with the leader (Ma and Tsui, 2015). Fundamentally, legalism is based on an axiom consistent with a modern economic premise: all people are primarily motivated by their self-interest while pursuing their interests and (King, 2020).

In short, legalist principles, characterized by a focus on strict rules and authority, contribute distinctive elements to entrepreneurial leadership in China. Leaders shaped by Legalist ideals may exhibit traits such as discipline, strategic control, and a pragmatic approach to governance. The emphasis on clear regulations and centralized authority within Legalism aligns with aspects of effective entrepreneurial leadership, where decisive decision-making and structured governance play pivotal roles. Organizational practices influenced by Legalism may prioritize hierarchical structures and adherence to established protocols. Understanding the interplay between Legalist philosophy and entrepreneurial

leadership provides a lens to discern the unique qualities that leaders bring to fostering innovation in Chinese organizations. This comprehension sets the stage for a seamless transition to the exploration of Communism, another philosophy that makes important influences on contemporary business dynamics in China.

2.3.4 Communism

As the previous discussion have traversed the ancient philosophical landscape of China, it is also imperative to address the unique and transformative influence of Communism on the entrepreneurial leadership narrative within CIEs. While distinct from the traditional philosophical roots of Confucianism, Daoism, and Legalism, Communism has played a pivotal role in shaping the socio-political and economic landscape of China. Understanding its influence on entrepreneurial leadership becomes crucial in unravelling the multifaceted dimensions of contemporary Chinese business dynamics. Communist ideologies, characterized by collective ownership, central planning, and a strong state presence, introduce a paradigm shift that extends beyond individual leadership traits to encompass broader organizational structures and decision-making processes. Exploring the influence of Communism offers a lens which helps to comprehend the intricacies of leadership and innovation performance within the context of China's modern political and economic framework.

The influence of communism philosophy on the Chinese mindset can be observed in several ways. First, the emphasis on collectivism has shaped the Chinese mindset, fostered an intense sense of group identity and prioritized collective goals over individual interests (Geng and Zhongying, 2023). This collectivist mindset is deeply ingrained in Chinese society and influences decision-making, relationship dynamics, and organizational

cooperation. Second, the principle of egalitarianism inherent in communism philosophy has influenced the Chinese mindset by promoting notions of fairness, equality, and social harmony (Li, 2022d). This mindset manifests in an inclination towards consensus-building, cooperation, and avoiding open confrontation, as these behaviours are conducive to maintaining social stability and harmony.

Regarding leadership styles, the influence of communism philosophy is evident in both state-owned and private companies in China, albeit with some variations. In state-owned enterprises (SOEs), the leadership style often reflects the principles of the communist ideology, emphasizing hierarchical authority, top-down decision-making (Lu and Smith, 2022, Hugyik, 2022). SOE leaders must align with party directives, prioritise organisational stability, and contribute to societal welfare. In private companies, the influence of communism philosophy may be less pronounced than in state-owned enterprises. However, it still shapes the leadership mindset and practices to some extent. Private company leaders may adopt a more pragmatic approach, combining market-oriented strategies and communist value (Yang et al., 2022). They may emphasize a mix of meritocracy, entrepreneurial spirit, and previously discussed ancient ethics of Confucian, Daoism and Legalism ethics while also considering their businesses' social responsibility.

Influenced by Communist ideologies that stress collective ownership and central planning, entrepreneurial leaders in China exhibit distinctive attributes within their leadership. The commitment to common welfare, shared responsibility, and adherence to state-driven economic principles shapes leadership styles that prioritize collaboration and unity. This alignment with Communist principles extends beyond leadership approaches, permeating organizational practices with an emphasis on centralized decision-making and

collective contributions. In the context of innovation performance, the Communist influence may manifest in a structured and planned approach to achieving common goals. Understanding the interplay between Communist ideologies and entrepreneurial leadership provides critical insights into the socio-political dimensions shaping business dynamics in China.

2.3.5 Entrepreneurial Leadership Meets with Chinese Leadership Philosophy

The alignment between entrepreneurial leadership (EL) and traditional Chinese leadership philosophies becomes evident through the practices of successful leaders like Jack Ma and Robin Li. Their leadership behaviours, rooted in Daoism and Confucianism, showcase the integration of traditional Chinese philosophies into entrepreneurial practices. Jack Ma's adoption of Daoist principles, such as viewing failure as a stepping stone to success (Yin is Yang), and Robin Li's embodiment of Confucian values as a role model (Junzi) for innovation highlight the influence of ancient Chinese philosophies in shaping their leadership styles.

Moreover, the incorporation of innovation encouragement in policies by these leaders resonates with the core principles of legalism, emphasizing the importance of policymaking. The collectivist mindset promoted by communist philosophy further reinforces the connection between entrepreneurial leadership and traditional Chinese values. Entrepreneurial leaders in China often prioritize the interests of their employees and stakeholders, reflecting a paternalistic approach that balances individual ambition with collective harmony (Schroevers et al., 2021).

The influence of communist philosophy extends to the focus on long-term goals and strategic planning in entrepreneurial leadership. Chinese leaders exhibit patience and

persistence, driven by the vision of creating lasting value, aligning with the broader communist philosophy's aim of achieving social progress through deliberate efforts (Li et al., 2020a). The symbiotic relationship between the Chinese government and entrepreneurs, marked by support, resources, and policy guidance, underscores the intertwined nature of the socialist market economy in China.

In essence, the observed alignment between entrepreneurial leadership practices and traditional Chinese philosophies provides a solid foundation for understanding the critical role of EL in the innovation performance of Chinese innovative enterprises (CIEs). This connection suggests that EL, deeply rooted in Chinese leadership philosophies, resonates well with the cultural and philosophical underpinnings of Chinese society. The subsequent sections of the study will investigate a detailed exploration of entrepreneurial leadership, preceded by an examination of the fundamental concepts of entrepreneur and entrepreneurship.

2.4 Entrepreneur and Entrepreneurship

Entrepreneurs examine market prospects and assume the risk of losses and profits by bringing productive variables such as capital, natural resources, and labour to manufacture goods or services (Canh et al., 2021). The personality traits of entrepreneurs are one of the earliest study subjects in entrepreneurship research, most likely because initial studies revealed consistent evidence that these traits, such as entrepreneurial attitudes, intention, standing, and achievement, influence entrepreneurial results (Koe Hwee Nga and Shamuganathan, 2010, Udayanganie et al., 2019). Howard and Boudreaux (2021) combined previous studies on entrepreneur personalities to provide the following definition of entrepreneur personalities: a set of personality qualities that are significantly and widely

related to entrepreneurial results in most circumstances. In most conceptual frameworks and constructs of entrepreneur personalities, there are seven dimensions: innovativeness, risk-taking, achievement orientation, locus of control, proactiveness, self-efficacy, and autonomy orientation.

Scholars believe a firm must take a strategic approach to entrepreneurship to create the most value (Hlady‐Rispal and Servantie, 2018, Fayolle, 2007, Cherrier et al., 2018). To attain this ideal condition, leaders with an entrepreneurial attitude orientation create a strategic but entrepreneurial resource management culture (Howard & Boudreaux, 2021). Utoyo et al. (2020) suggests that at least four factors are necessary for a company to engage in entrepreneurial activity, including entrepreneurial visions effectively communicated, strategies for supporting innovation, processes for procuring resources and expertise for entrepreneurial initiatives, and the ability to allow continual inquiry and idea development. As a result, entrepreneurial actions must be encouraged to 'find and exploit strategic value creation' in entrepreneurial-oriented firms (Utoyo et al., 2020). In hostile and dynamic/turbulent settings, organisations can profit significantly financially and strategically from firm-level entrepreneurship (Covin and Slevin, 1989). Firm-level entrepreneurship has been also described using terms such as corporate entrepreneurship, corporate venturing, entrepreneurial mindset, and intrapreneurship (Urban and Wood, 2017).

In recent years, entrepreneurship has emerged as a critical driving force behind economic growth and development, employment, and societal well-being (Pradhan et al., 2020, Urbano et al., 2020). Entrepreneurship has previously been studied and shown to be the fourth economic science component, following labour, nature, and capital (Pauceanu et al., 2021b). As a new subject of study in the social sciences, entrepreneurship is just a few

decades old. Research on this phenomenon has formed and progressed since 1990 (Pauceanu et al., 2021b, Hisrich et al., 2017). Since then, it has taken on enormous value and generated numerous views owing to its complexity, necessitating the need to understand its consequences from multiple fields. Due to its significance for economic development, entrepreneurship has gained considerable attention from many stakeholders in recent years (Diandra and Azmy, 2020, Bruton et al., 2023).

2.5 Entrepreneurial Leadership

Leadership is becoming increasingly crucial as a capacity that inspires teams to engage in collaborative innovation to produce the greatest possible result. In addition, leadership plays a vital role when the intense competition in the global marketplace evolves with increased risks, decreased capacity to foresee, collapsing industry borders, and establishing new business arenas across sectors (Bettis and Hitt, 1995, Hitt and Reed, 2000) . Because of these conditions, organisations must continually seek opportunities to maintain their competitive advantage. This must be done to guarantee the generation of wealth within the organisation by applying organisational learning, creativity, and innovation (Ireland et al., 2003, Torokoff, 2010). Besides, organisations must adopt entrepreneurial behaviours and attitudes that encourage adaptability and innovation (Renko et al., 2015).

Entrepreneurial strategy was defined by Mintzberg and Waters (1982) as having a certain level of deliberateness, a clear vision, and the flexibility to enable such a vision to alter. Drucker (1985a) asserted that for an entrepreneurial strategy to be successful, the business owner must exhibit a particular set of behaviours. He described entrepreneurship as the act of invention that involves endowing existing resources with the power to produce new forms of wealth. According to Tidd (2014), there is a significant connection between

innovative business practices and entrepreneurship. Entrepreneurship was described by Stevenson and Jarillo (1990) as an approach in which individuals or groups inside an institution explore possibilities to produce wealth without consideration of the resources they already possess. According to Ireland et al. (2003), entrepreneurship is a sociological phenomenon dependent on the context in which it is carried out. This method allows individuals or groups to amass wealth by assembling singular collections of resources to take advantage of opportunities presented by the market.

In addition, Cogliser and Brigham (2004) found crossovers between entrepreneurship and leadership in various contexts. According to Vecchio (2003), entrepreneurship is a form of leadership in a particular context to capitalise on possibilities to amass riches, and therefore, entrepreneurial leadership is a one-of-a-kind style of leadership that concentrates on ensuring that diverse, talented people operate in an institution more creatively and innovatively in collaborative processes to adapt to an unpredictable business environment and generate coherent strategies and new outcomes. This leadership paradigm is distinguished by its overarching aim of fostering innovation. Innovation, in this context, is delineated as the practical introduction of a novel technique or a fresh amalgamation of existing technologies. The introduction occurs in the transformative process of converting input into output, leading to a substantial and impactful alteration in the nexus between use value and monetary worth. This transformation is grounded in the perceptions of both customers and users, contributing to a radical shift in the economic and technological landscape (Utoyo et al., 2020, Fontana and Musa, 2017a, Arifin et al., 2015).

As a result of the economic challenges that marked the turn of the 21st century, a new focus has been placed on the role of the entrepreneur in leading businesses (Leitch et

al., 2013, Renko et al., 2015). According to Cunningham and Lischeron (1991), entrepreneurial leadership requires setting clear objectives, creating opportunities, giving people agency, and maintaining trust within an organisation. McGrath and MacMillan (2000) looked at entrepreneurial leadership from the perspective of leader characteristics, specifically how these attributes are utilised to find opportunities and integrate resources (both human and financial) in novel ways to benefit the most significant number of people. During this same time frame, three distinct facets of entrepreneurial leadership emerged. The first of these was proposed by McGrath and MacMillan (2000), who saw entrepreneurial leadership as a tool for guided discovery that propels firms into an uncertain future, enabling them to reorient and adjust their course as necessary. The second facet of entrepreneurial leadership is using human and nonhuman resources to accomplish the organisation's goals and objectives. When this objective is met, the organisation's total value rises, and any time- or space-based inefficiencies are eliminated. Thirdly, an entrepreneur's leadership emphasises innovation in product development and market research (Mishra and Misra, 2017). This facet grew out of Schumpeter (1934)’s definition of an entrepreneur's duty as a creative agent in the search for new business prospects, necessitating using characteristics like independence and a willingness to take risks. What it means for a company to be entrepreneurial can be summed up in the phrases "capture ideas," "gather resources," and "combine them to develop a new product or service that adds value to the organisation's offering in the market" (Johnson, 2001). Similarly, Johnson (2001) defined entrepreneurial leadership and claimed that this leadership is seen as generating value through grasping possibilities in the environment.

According to more recent definitions of entrepreneurial leadership, an entrepreneurial leader is good at seeing possibilities, taking calculated risks, maintaining

creativity, and adjusting to fast-paced, uncertain situations (Renko et al., 2015, Mehmood et al., 2021). Furthermore, vision, concentration, and the capacity to inspire others are essential leadership qualities for entrepreneurs. One must adopt a frame of mind and acquire abilities to identify, create, and capitalise on novel business chances. To be successful as an entrepreneur, a leader must be able to inspire their team with a compelling vision and equip them to recognise, cultivate, and grasp opportunities as they arise (Iqbal et al., 2022). Ultimately, it is up to these executives to improve the company's bottom line (Iqbal et al., 2022). Western countries have seen a rise in entrepreneurial businesses like Uber, Airbnb, and Snapchat. Meanwhile, China's internet giants like Baidu, Alibaba, and Tencent have also seen their performance soar, prompting researchers to examine the factors that affect entrepreneurial businesses' success from leadership perspective (Clark et al., 2019).

2.5.1 Definition Of Entrepreneurial Leadership (EL)

The notions of entrepreneurship (Schumpeter, 1934), entrepreneurial orientation (Covin and Slevin, 1989, Miller and Friesen, 1982), entrepreneurial management (Stevenson, 1983), and leadership come together to form the concept of entrepreneurial leadership (Fontana and Musa, 2017a). One possible definition of entrepreneurial leadership is influencing companies by leading and directly engaging in creating value for stakeholders by putting together a one-of-a-kind invention and package of resources to respond to a recognised opportunity (Gupta et al., 2004). EL includes going where no one has before to shape the future by modifying established behaviour patterns. This is because, as stated by Gupta et al. (2004), EL creates imaginative scenarios to collect and mobilise a supporting cast of players who become dedicated to discovering and exploiting strategic value creation.

In addition, the research conducted by Imran and Aldaas (2020) shows that EL needs to be able to formulate strategic plans for the future in order to keep companies on track to fulfil their goals. For a leader to be effective, they must have a goal in mind. Successful entrepreneurs also envision the need and the delivery method for the product or service they sell. Entrepreneurial leadership is a new phrase in management research that combines a leader's leadership capabilities with an entrepreneur's entrepreneurial enthusiasm. The dynamic new leadership landscape entrepreneurs find themselves in must be fully considered by previous leadership frameworks such as transformational leadership (Renko et al., 2015). Therefore, "Entrepreneurial leadership," a leadership approach that "influences and directs the success of members in the group toward the fulfilment of organisational objectives that involve recognising and utilising entrepreneurial opportunities," was proposed by Renko et al. (2015) to bridge this gap.

More specifically, entrepreneurial leadership entails more than just the ability to spot opportunities for starting new businesses (Goodale et al., 2011). In addition, it requires developing new economic prospects inside current companies, addressing social problems, and engaging in social entrepreneurship to enhance society and government (Esmer and Dayi, 2016). Drucker (1985) held the opinion that for enterprises to maintain their competitive edge and continued relevance today, they must adopt entrepreneurial mindsets and new ways of behaving. Even though Drucker(1985) first proposed this point of view more than three decades ago, it is still applicable to the circumstances of this research. Consequently, entrepreneurial leadership would be developed in individuals and implemented within or outside an organisation to generate original ideas. Therefore, entrepreneurial leadership is instilled in society and individuals in a novel way since it is a holistic idea interwoven into both. When viewed from this angle, entrepreneurial leadership has fundamentally altered

both businesses and the leaders of those businesses to make them far more inventive within their respective industries. In a sense, this is the core of what it means to be an entrepreneurial leader.

In addition, Vecchio (2003) suggested that many of the concepts that are utilised in the field of entrepreneurship can be found within standard theories of leadership. Cogliser and Brigham (2004) confirmed that the significant connections should be addressed despite not being as unequivocal. Awareness of the nature of entrepreneurial leadership requires understanding some of the theoretical advancements that have taken place based on the many definitions of entrepreneurial leadership. As a result, other conceptualisations of entrepreneurial leadership have arisen, each based on a different meaning of the term "entrepreneurial leadership." These are the role-cantered approach, the ability-based approach, the effect of style approach, and the process approach (Sendze, 2019).

The role-centred approach utilises leadership theories, such as value-based leadership and transformational leadership, to shed light on the entrepreneurial leadership viewpoint of the entrepreneurial leader's capacity to mobilise resources to meet and achieve entrepreneurial problems and objectives (Gupta et al., 2004). The leader of an entrepreneurial venture is responsible for seeing potential business opportunities and assembling teams of people capable of meeting the challenges that such opportunities provide.

Surie and Ashley's (2008) definition of entrepreneurial leadership as leadership that is successful in maintaining innovation and adaptability in high-velocity and hyper-competitive situations is a significant source of inspiration for the style school of thinking. This conceptualisation of entrepreneurial leadership forms the basis for the style school of

thought. This strategy strongly emphasises the significance of maintaining a flexible leadership style and recognising the influence of the environment in determining the good outcomes that a company experiences.

Understanding the evolution and present conceptualisations of entrepreneurial leadership provided the researcher with a greater understanding of this burgeoning topic. It permitted the development of a unique description of this leadership style. In the research, it needed to be more evident to what degree the characteristics of entrepreneurial leadership that were found are applicable in various circumstances (Harrison et al., 2016). Several models have surfaced, all of which have been tested by researchers in a wide variety of businesses to comprehend the entrepreneurial leadership construct better and evaluate it as a distinct kind of leadership (Selvaraja and Pihie, 2017).

The model of entrepreneurial leadership developed by Gupta et al. (2004) is widely utilised across the body of research that has been done to investigate the influence of entrepreneurial leadership from two different perspectives: scenario enactment and cast enactment. According to their point of view, the entrepreneur has two obstacles or dimensions dependent on one another. Both aspects must be comprehended and mastered by entrepreneurial leaders for them to achieve success. The entrepreneurial challenge of scenario enactment consists of reorienting and altering the business model by structuring the company so that it may exploit or enact possibilities as they become available. In the dimension of scenario enactment known as "framing the challenge," the entrepreneurial leader's function includes absorbing uncertainty, clearing the route of any impediments, and framing the problem. Extra insight, vision, performance focus, foresight, encouragement, confidence building, and diplomatic skills are characteristics of the entrepreneurial leader in

the scenario enactment (Selvaraja and Pihie, 2017). Cast enactment is the second of the two phases of enactment, and it involves collecting, motivating, and mobilising a group of competent persons capable of bringing about the necessary adjustments and transformations. In the cast enactment dimension, the responsibility of the entrepreneurial leader comprises establishing commitment and setting the bounds. A team builder, someone who is upbeat and intellectually engaging, someone who is focused on making improvements, and an integrator are all characteristics of an effective cast enactment entrepreneurial leader. On the other hand, the entrepreneurial leadership model proposed by Gupta et al. (2004) has several areas for improvement. To begin, it does not define the fundamental characteristics of entrepreneurial leadership, highlighted by previous investigations, including risk-taking, proactiveness, and innovativeness (Covin and Slevin, 1991). Second, the model needs to emphasise the significance of the external networks available to leaders to assist them in achieving organisational success.

The entrepreneurial leadership model developed by Van Zyl and Mathur-Helm (2007) relies on the integration of leadership and business elements at critical points throughout the model. This model was developed with the premise that transformational leadership and behaviours with an entrepreneurial focus should be included. These characteristics of an entrepreneurial attitude include proactiveness, innovativeness, and a willingness to take risks. Three essential components comprise this model's leadership dimension: the technical, the psycho-emotive, and the ethical. The amount of the leaders' technical ability to influence their followers is referred to as the technical side of leadership. The psycho-emotive component refers to the extent to which the qualities and social abilities of the leaders contribute to the development of an engaging environment. Finally, the ethical component relates to the moral uprightness of the leaders in terms of their decision-making.

In short, entrepreneurial leadership emerges when the finer aspects and spirit of entrepreneurship are combined with the variable nature of leadership (Esmer and Faruk, 2017). "Entrepreneurial leadership" refers to a leader's ability to act independently like an entrepreneur. In other words, a leader with risk-taking, opportunity assessment, creativity, productivity, collaboration, and strategic thinking can have entrepreneurial leadership qualities.

Therefore, entrepreneurial leadership was formed to encompass leadership behaviours involving the influence and direction of group members towards goals, including the recognition and utilisation of entrepreneurial possibilities. Entrepreneurial leadership differs from other types of leadership in that it focuses on the leader's dispositional qualities and behaviours (such as charm and empowerment) that influence employee behaviour rather than the features and actions of the leader that are focused on the employees (Antonakis and Autio, 2014). The focus on opportunity-oriented behaviours, for instance, situates the entrepreneurial leadership model closer to the entrepreneurship literature than the other leadership literature, even though both entrepreneurial and transformational leaders can elicit superior performance by enticing the second order needs of their staff. Furthermore, unlike other leadership styles, such as servant leadership, which concentrates on each employee's strengths and flaws, entrepreneurial leadership evaluates followers' entrepreneurial passion and self-efficacy (Eva et al., 2019).

2.5.2 The intersection of entrepreneurship and leadership

The opinion that entrepreneurial leadership can be found at the junction of entrepreneurship and leadership is still prevalent in the most current research on entrepreneurial leadership (Leitch and Volery, 2017). According to Leitch and Harrison

(2018), three distinct roles are representative of the connection between entrepreneurship and leadership. The first stance views entrepreneurship as a form of leadership emphasising leadership rather than other aspects of the enterprise. The second approach focuses on entrepreneurial leadership that necessitates an entrepreneurial mentality and in which entrepreneurship is preeminent. In the third spot, they find entrepreneurial leadership at the intersection of the two concepts of leadership and entrepreneurship. These dependencies presuppose that an entrepreneur is, by definition, a leader who must exhibit leadership qualities. The individual who best exemplifies leadership and entrepreneurship is either a leader who leads in an entrepreneurial manner or an entrepreneur who demonstrates leadership traits (Leitch and Volery, 2017). Given the interwoven nature of the two areas, some of the earliest papers by academics focused on analysing the human qualities and attributes of successful entrepreneurs, leaders, and managers, as well as how these traits were shared by both fields (Ireland et al., 2003; Vecchio, 2003).

Cogliser and Brigham (2004) identified vision, influence, creativity, and planning as common areas where both fields converge and provided a noteworthy perspective on how entrepreneurship can benefit from the more mature and established field of leadership. This was accomplished by identifying areas where both fields converge. In a similar spirit, Ensley et al. (2006) proposed that leadership and entrepreneurship frequently coincide due to the joint efforts of capitalising on opportunities. This idea is in keeping with the previous one. In their concept of entrepreneurial leadership, Gupta et al. (2004) integrated the techniques from both study fields. They noted that entrepreneurship and leadership are connected via visionary mobilisation and based their definition on this alignment. When viewed from the leadership perspective, entrepreneurial leadership refers to a leader's role in inspiring a group of people to participate in the entrepreneurial process (Renko et al., 2015). According to

research on leadership and business start-ups, transformational leadership also moulds most of the thinking behind entrepreneurial leadership (Leitch and Harrison, 2018). According to Britchenko et al. (2018), even if entrepreneurial and transformational leadership are similar, there are still some fundamental distinctions between the two leadership styles. This approach has offered helpful insights into both disciplines of study, nevertheless, Leitch and Harrison (2018) remarked that this position may hinder the creation of a conceptual framework for entrepreneurial leadership.

While the theoretical discussions above offer valuable insights into the conceptual debates surrounding EL, the critical intersection between theory and empirical research lies in the operationalized measurement tools. Gupta et al. (2004) developed a widely utilized instrument, as evidenced in recent studies such as Paudel (2019). Renko et al. (2015) also introduced a measurement tool, which is cited in works by Cai et al. (2019). Noteworthy is the recent and significant contribution by Bagheri and Harrison (2020) in advancing the operationalization of EL based on the further analysis of previous measurements.

Gupta et al. (2004) 's model, the earliest operationalization of EL still in common usage, does not directly take the form of a questionnaire but delineates a set of behaviours considered distinctive to entrepreneurial leadership. These behaviours span five dimensions: Framing the challenge, absorbing uncertainty, path clearing, building commitment, and specifying limits. Renko et al.'s (2015) ENTRELEAD was designed as a concise measure for EL, aiming to address inherent issues in the earlier Gupta et al. (2004) measure. Employing standard procedures for scale development and validation, the authors established an eight-item scale for EL measurement. Building upon these preceding scales, Bagheri and Harrison (2020) introduced the most extensive and detailed scale of EL to date.

Comprising 40 items across eight dimensions, this scale exhibits high internal validity, making it a suitable choice for this study. The decision to adopt Bagheri and Harrison's (2020) scale in this study aligns with the evolving landscape of EL measurement tools and reflects a commitment to utilizing the most comprehensive and valid instrument available in the current scholarly discourse.

2.5.3 Influence of Entrepreneurial Leadership on Organisational Performance

Entrepreneurship is all about establishing a new business. On the other hand, entrepreneurial leadership focuses on creating new products, processes, and growth strategies in the company, working in social institutions, and participating in neglected social and political issues, like transforming non-governmental organisations (NGOs) and authorities (Esmer and Faruk, 2017). Entrepreneurial behaviours in an organisation are more important in today's increasingly turbulent and competitive business climate to stimulate innovation and adaptation to a shifting environment across contexts (Khouroh et al., 2020). Therefore, the present competitive and fast-moving business climate makes entrepreneurial leadership more successful in optimising the organisational performance of businesses than traditional leadership styles. Scholars emphasised that entrepreneurial leadership also helps businesses by improving organisational innovation and employee creativity, improving overall business performance (Yang and Bentein, 2023, Djalil et al., 2023, Ali et al., 2023).

Besides, the leader and the culture of the organisation are inseparable. Organisational culture, in turn, influences the judgments and actions of the leader in the future. In other words, an "entrepreneurial spiral" occurs between a leader's capacity to see an opportunity and the good aspects of the organisation's culture that favourably influence following it. Entrepreneurial leadership is specifically required to meet its aims of finding and using

opportunities under certain circumstances. When these prerequisites are met, leaders act as entrepreneurial role models and inspire their employees to follow in their footsteps, resulting in a culture of entrepreneurialism and a strong sense of purpose in the workplace. Leaders with a dynamic combination of risk-taking, action, and invention demonstrate an entrepreneurial leadership style (Utoyo et al., 2020).

Schumpeter (1934) strongly emphasised the roles that innovation and entrepreneurship had in the expansion of the economy. Schumpeter(1934) viewed innovation as a process in which value is continually recreated, resulting in changes within economic systems. The most important takeaway from the Schumpeterian model of growth theory is that it recognises the importance of entrepreneurs and defines innovation as the "new combinations of ideas, information, and processes" that they bring to the market. It is generally agreed that Say (1803) was the first person to define the job of an entrepreneur as the act of "combining the productive components, to bring them together". According to Onufrey and Bergek (2021), innovation is a primary factor determining a company's degree of competitiveness and sits at the epicentre of economic growth and transformation.

The Schumpeterian model of innovation incorporates the following five different types of innovation: (a) the introduction of a new good or a new quality of a good, (b) the introduction of a new method of production, (c) the opening of a new market, (d) the utilisation of a new source of supply of raw materials, and (e) the carrying out of the new organisational form of any industry by adding a model that incorporates the allocation of entrepreneurship inputs (Boettke and Piano, 2016). The five types of invention identified by Schumpeter represent stages in the innovation process that entrepreneurs might combine for the benefit of a single company or an entire economy. Schumpeter (1934) proposed that

rational reasoning only had a marginal role in the decision-making process about what kinds of innovations to integrate and how to do so. In addition, Schumpeter (1934) proposed that the "novel intuition" of the entrepreneur is the most valuable and the only method for them to deal with the limitless number of options available. In this method, the entrepreneur relies on their gut instinct rather than facing the difficulties of making rational decisions. The dependence on intuition does not imply that conscious logical thought is not vital. As a result, Schumpeter (1934) recognised that entrepreneurs are required to mull things over in their heads constantly. However, given that it is nearly impossible to foresee everything with absolute certainty that what is being done right now will inevitably bring success, the entrepreneur has no choice but to depend on instinct and make a choice one way or the other. Schumpeter (1942) also asserted that innovation is the primary driver of economic growth and that entrepreneurs are responsible for bringing about innovative new production units (products and processes), which, through a process known as "creative destruction", replace older, more inefficient production units.

For anything new to be developed, it is necessary, according to the core principle of the Schumpeterian method, to destroy what already exists. This strategy of generating new ideas and wealth, coupled with eliminating pre-existing market structures, demonstrates that innovation is a driver of market dominance and that demolishing current market structures is a necessary precondition for its achievement. In addition, business owners compete with the other companies in their sector to reduce those firms' earnings and gain market share at the expense of their rivals. This organisational change from a competitive market to a monopolistic market and then back to a competitive market incorporates the effect of innovation on business cycles and sustainable growth. This process of constructing and eliminating production units is complicated, involving many decisions, several stakeholders,

and many technological and strategic concerns. This approach involves the distribution of entrepreneurial potential and the presence of excellent institutional footing that offers a robust transactional framework to protect against failure throughout creative destruction (McCaffrey, 2018).

As a result, McGrath and MacMillan (2000) advocate that strategic management must include “entrepreneurial attitude" as a critical component, especially in high-velocity situations where competition and change are rapid. As a result, focusing on the notion of 'Entrepreneurial leadership' is a critical first step. To improve their performance, adaptability, and long-term survival, organisations need to be more entrepreneurial, which has led to an increased focus on entrepreneurial leadership. Entrepreneurship meets leadership at the entrepreneurial leadership's intersection. An entrepreneurial attitude and culture can only thrive in a competitive environment, and that is where entrepreneurial leadership comes into play (Utoyo et al., 2020). Entrepreneurial leadership encourages people to use resources strategically to emphasise both opportunity-seeking and advantage-seeking behaviours.

Scholars of entrepreneurial leadership identify two key leadership behaviours that enable entrepreneurial leaders to affect the performance of firms. Scholars believe, first, that entrepreneurial leaders encourage their teams to produce value for the business by expressing a compelling entrepreneurial vision (Bagheri and Harrison, 2020). In leadership literature, the effect of a leader's vision on performance has been thoroughly documented. If a leader can articulate a compelling vision for the future, it can serve as a rallying cry for his or her team to work together toward a common goal. To create an entrepreneurial vision, a leader must stress the opportunities for innovation and growth in the current market and work to inspire their followers to make sacrifices to see the vision become a reality. Inspiring

team members to work together toward a shared future vision of success is a sure way to get people to work harder and smarter to meet their goals (Cai et al., 2019). This is paired with establishing high-performance criteria for the team, absorbing environmental uncertainty so group members can concentrate on accomplishing the vision, and providing enough support for followers. Consequently, followers become devoted to and proud of the vision, striving to accomplish these performance objectives (Torlak and Kuzey, 2019).

In conclusion, entrepreneurial leadership enable leaders to be capable of confronting difficulties, evaluating risks, seizing opportunities, and pursuing personal growth while being creative, innovative, collaborative, and strategic in their approach. Entrepreneurial leaders are self-conscious and aware of their surroundings, and they know how to identify opportunities that will benefit the firm, its stakeholders, and the community. They desire to create social, ecological, and economic opportunities for themselves and their communities (Pauceanu et al., 2021). To meet the latest business issues of the twenty-first century, it arose as a leadership style from the existing leadership and entrepreneurship literature (Yang and Bentein, 2023, ul Haq and Aslam, 2023, Hoang et al., 2023, Faridian, 2023, Djalil et al., 2023), which has significant influence on business performance. However, theoretically and practically, the literature on entrepreneurial leadership is still in its infancy, and very little research has been done on the relationship between entrepreneurial leadership and innovation empirically (Leitch and Volery, 2017), especially in the context of China's internet industry, where innovation is seen as the key for survive (Yip and McKern, 2016).

2.6 Innovation Performance

The vast literature on innovation yields diverse interpretations and understandings of its key concepts. Table 2.2 presents a synthesis of various past definitions of innovation, highlighting common core components and the underlying convergence of ideas.

Table 2.2: Different Definitions of Innovation

Definitions	Justifications
Formulation of novel combinations using existing resources	Acknowledged by Schumpeter in the 1930s (Schumpeter and Opie, 1934)
Introduction of novel or substantially improved products (goods/services) or processes (methods/practices/relationships)	Based on international guidelines for proposed definitions (OECD-Eurostat, 2005)
Innovation encompasses the creation and execution of fresh processes, products, services, and delivery methods, resulting in significant enhancements in outcomes, efficiency, effectiveness, or quality	Reflects an expanded interpretation (Mulgan and Albury, 2003)
Successful utilization of fresh ideas or those adopted from other sectors or organizations	As defined by the UK government (Office, 2009)
Development or adaptation of new ideas or behaviours	Encompassing behaviours alongside ideas (Damanpour and Schneider, 2009)
Introduction of new elements into a service—such as new knowledge, organization, or management/skills	Focused on innovation within service sectors (De Vires et al., 2014)

Recent studies on innovation definitions persist, with Kahn (2018) proposing that innovation involves the introduction and implementation of new concepts or ideas aimed at improving an organization's performance and securing its long-term success. Burns (2020) argues that defining innovation is challenging, and measuring it is equally difficult. There is no standardized scale for quantifying innovation (Baregheh et al., 2009). Burns (2020) proposes a classification of innovation into radical and incremental categories based on scale, a framework adopted by this study. The distinction between incremental and radical innovation is subjective. Economists consider a product to be radically different if its cross elasticity of demand is zero, meaning changes in demand for it do not affect demand for other products. Simply introducing a new product or service that is similar to existing ones is not considered innovative, even if it replaces an existing product (Burns, 2020).

One of the most distinguishing characteristics of an entrepreneur is their propensity for innovation, which is also one of the most fundamental aspects of running an entrepreneurial business (Renko et al., 2015). Numerous studies have shown significant correlations between a leader's style and innovative capabilities. These capabilities include recognising opportunities and leading and managing innovation processes that provide a competitive advantage and add value (Alblooshi et al., 2021). Even though it has been demonstrated that leadership plays a role in the process of fostering organisational innovation (Bagheri, 2017), it is still a matter of debate as to which leadership style is more effective at achieving this goal, as well as which kind of innovation and at what stage of the innovation cycle that leadership style has the most influence (Solhdoost and Jafarzadeh Kermani, 2016).

According to Tung and Yu (2016)'s research on innovation in high-tech companies, leaders play a vital role in fostering creativity and innovation within their workforce. Innovation, creativity, and the production of new ideas are some of the most attractive attributes of entrepreneurial leaders. However, these ideas should be able to be developed into valuable products or services, because ideas are just ideas unless they are implemented and, in the case of commercial enterprises, monetised (Drucker, 1985b). Few academics have explored the sort of leadership style that is most successful at boosting innovation, despite the necessity of examining whether leadership styles and behaviours effectively promote innovation and opportunity recognition at both the individual and institutional levels (Berraies and Zine El Abidine, 2019). On the other hand, in recent years, many studies have demonstrated that entrepreneurial leadership is the leadership style and conduct that greatly encourages and supports innovation (Freeman and Siegfried Jr, 2015, Iqbal et al., 2022)

In the 21st century, businesses will continue to witness and suffer a great deal of innovation destruction and disruption as a result of the rapid advancement of technology and the introduction of new goods that render existing products and technologies obsolete (Mayhew et al., 2016). However, these changes are not and will not be restricted solely to technological developments and instead, they will also include significant shifts in social, political, and cultural norms. Baumol (1990) asserted that innovation is a distinguishing attribute of entrepreneurship and that the amount and scope of entrepreneurship in society determines economic growth. The work of Baumol (1990) incorporates many notions of current entrepreneurship, and his three fundamental sources of innovation—productive, unproductive, and destruction—are incorporated into the opportunity construct of

entrepreneurship, which is reinforced as a crucial defining approach of McCaffrey (2018)'s work.

2.6.1 Definition and Typologies of Innovation

Rogers and Rogers (1998)'s definition of innovation, which identifies innovation as "an idea, practice, or product that is experienced as novel by a person or other unit of adoption," is the foundation for most of the definitions of innovation that can be found in the academic literature. Other scholars have described innovation as when a company implements an already-developed idea. De Vries et al. (2016) observed two similar features across all the definitions of innovation that they investigated when they conducted their study of the definitions of innovation. They found that novelty was included in 37 out of the 44 definitions and that a particular organisation's adoption of a concept was mentioned in five research studies. However, seventeen studies incorporated both themes. The idea that innovation is a break from the past was not included in many definitions, and this omission obscures an essential point of differentiation between innovation and gradual change (De Vries et al., 2016). According to the definition provided by Baregheh et al. (2009), innovation can be described as "the multistage process whereby organisations transform ideas into new or improved products, services or processes, in order to advance, compete, and differentiate themselves successfully in their marketplace". This multistage quality of innovation is made possible by the interplay of several components, including teams, leaders, and organisational support systems. These factors enable innovations that are either radical or incremental and can be applied to goods, services, or processes.

One other significant distinction that can be drawn from the research is the various forms of innovation with relation to their respective constituents, such as product, process,

organisational, and market innovation (Baregheh et al., 2009). These distinctions are significant for this study because persuasive indicators demonstrate that various aspects of innovation impose various expectations on leadership (Cortes and Herrmann, 2021, Haque and Yamoah, 2021). In China's internet enterprises, innovation may make the following possible: (a) the introduction of new organisational policies and procedures, (b) the optimisation of the work environment, (c) the design and delivery of new services and programs, (d) improvements that enable the organisation to provide more distinctive and value-added services, (e) efficiency in the deployment and use of human resources, (f) changes in external community interactions and partnerships, and (g) a decrease in administrative expenses or transactions (Solhdoost and Jafarzadeh Kermani, 2016).

Understanding the innovation behaviour of businesses requires a clear distinction between the many forms of innovation. This is because each company is one of a kind and possesses a distinct set of traits. As a result, the process of adopting innovations will not have the same importance nor the same organisational antecedents as before. Product innovation, process innovation, strategic innovation, and other types of innovation have been recognised by researchers as the four main categories of innovation found in the research literature (Danylenko, 2018). The innovation of products can take the form of either physical or intangible advancements, and it applies to both goods and services. Customers or end users of an organisation's goods and services are the recipients of the outputs produced by the organisation. Any procedure established within an organisation to transform and support the organisation's usage of its resources is considered a process innovation (Burns, 2020). The "positioning and direction of an organisation" is what is meant when discussing strategy innovation. When developing innovative strategies, companies must consider their organisations' missions, visions, policies, and business models. The additional components

of innovation that are considered include the invention's level of innovation, level of influence, level of novelty, and whether or not it is an incremental or radical innovation (Al-Khatib and Al-ghanem, 2022). Even while creating something new or developing a new service or product is included in many definitions of innovation, this does not mean that every new service or process an organisation deploys will inevitably be creative. Anything innovative must be novel, have practical applications, and bring value (Al-Khatib and Al-ghanem, 2022).

There are also several other conceptualisations of innovation in past literature. In management studies, various types of innovation are thoroughly analysed, and numerous approaches to the innovation sector have been developed by researchers, such as architectural innovation, component innovation, discontinuous innovation, business model innovation, and competence enhancing or destroying innovations (Rakic, 2020). For instance, architectural innovation is viewed as the reconfiguration of existing modular resources, also at the company level, to produce a new method, product, or business. In this instance, the architectural innovation is the reconfiguration of an existing system to link existing components in a novel manner (Albert and Siggelkow, 2022). It indicates that the fundamental architectural innovation technology depends on the current technology. It pertains to the modifications required to link the current modules differently to produce something slightly novel. Complementarily, it refers to the innovation of components when only a portion of the architecture is altered. Changes occur in the materials, parts, or new modules utilised to create a new product, in the case of component innovation. In addition, innovation can also be discontinuous. As Robertson (1967) points out, a discontinuous innovation combines introducing a new product and establishing new behaviour patterns.

Despite their discontinuous nature, sustaining technologies improve the performance of existing goods without harming existing businesses.

Customers will be able to see the value in the enhancements made. Researchers believe that discontinuous innovation is shifting customers, creating new product categories, and changing customer habits due to this process (Rakic, 2020). Scholars, furthermore, categorised innovation as either competence-enhancing or competence-destroying. The first definition of revolutionary innovation came from Freeman et al. (1982) and Abernathy and Clark (1985), who defined it as an 'innovation that disrupted and rendered traditional technical and production competencies obsolete'. Significant technical developments can also be 'competence-destroying' in some circumstances. New entrants are taking control of the new industries due to dramatic technological innovations (Anderson and Tushman, 2018). However, in some circumstances, new technologies were 'competence-enhancing,' bolstering the incumbents' position. This shows that disruption is not necessarily a 'change of the guard' between incumbents and new entrants – as described in various studies (Rakic, 2020).

Although there are differences in the literature for these several forms of innovation, all innovation can be classified from level point of view into one of two primary categories: incremental or radical (Burns, 2020). According to Acemoglu et al. (2022), incremental innovation is an invention known to have been "continuously dispersed throughout time and sectors." The primary results of incremental innovation are efficiency increases, productivity advances, and quality enhancements. The expansion of the company's expertise and the refinement of its existing offerings are the primary focuses of this initiative (Shi et al., 2020). On the other hand, radical innovation is "discontinuously spread throughout time and

sectors," and its primary outputs are changes in organisational structure with limited and localised economic influence. This innovation focuses on acquiring new information, developing and advancing new goods for new clients or emerging markets, and expanding those markets (Tiberius et al., 2021). Expanding and improving existing products and services is the goal of incremental innovation, which does this by catering to the requirements of already established clients and markets. Disrupting the status quo and modifying organisational subsystems is the typical result of radical innovation. This results in established market positions being displaced (Brasil et al., 2021).

Taking the technological life cycle as a illustrative framework, Kaplan and Tripsas (2008) provide a comprehensive model comprising four distinct stages that delineate the progression of innovations over time. The first stage, termed "Technological discontinuity," involves the inception of new technologies driven by radical scientific knowledge or a substantial enhancement of technical performance. Subsequently, the "Variation – Era of ferment" phase unfolds, marked by technological uncertainty, diverse customer preferences, and unclear user priorities. As the technological landscape matures, the third stage, "Selection – Dominant design emergence," emerges, wherein customers' preferences are solidified, and a prevailing architectural design establishes itself as the market standard. Finally, the "Retention – Era of incremental change" marks a phase where the predominant design becomes entrenched, resisting displacement, and enterprises predominantly concentrate on introducing minor enhancements through incremental innovations.

The following table summarizes key innovation typologies discussed above, along with their definitions and examples, to illustrate the diversity and complexity of innovation processes.

Table 2.3: Typologies of Innovation

Typology of Innovation	Definition/Description	Examples
General Definition	Innovation is defined as an idea, practice, or product perceived as novel by an individual or organization (Rogers and Rogers, 1998).	New product launches, service enhancements.
Multistage Process	A process where organizations transform ideas into new or improved products, services, or processes to advance and compete (Baregheh et al., 2009).	Development of new services and operational improvements.
Innovation By Forms	Innovation can be categorized into four main types: product, process, organizational, and market innovation (Baregheh et al., 2009).	- **Product:** New features or functionalities.
		- **Process:** Streamlined operations.
		- **Organizational:** New management practices.
		- **Market:** New customer engagement strategies.
Innovation By Scales	Innovations can be classified as incremental (small, gradual improvements) or radical (disruptive and substantial changes) (Burns, 2020).	- **Incremental:** Minor updates to existing products.
		- **Radical:** Introduction of groundbreaking technologies or business models.

Given the technology-driven nature of CIEs and the genesis of their primary products from radical innovation, it becomes imperative to distinguish between radical and incremental innovation. Consequently, a thorough examination of the influence of entrepreneurial leadership behaviours on both radical and incremental innovation is warranted. This approach aligns with the recognition that, within the dynamic landscape of

CIEs, entrepreneurial leadership plays a pivotal role in steering innovation, influencing the trajectory of radical and incremental advancements across the technological life cycle.

2.6.2 Incremental Innovation and Radical Innovation

Companies' success primarily depends on their innovation to innovate new products. Regrettably, in a world that is both intensely competitive and unsettled, the percentage of product innovations that are commercially successful is low and has been somewhat declining (Castellion and Markham, 2013). Organisations are consequently compelled to engage in competition and perpetually adapt in order to effectively respond to the unpredictability of the requirements posed by customers through the provision of superior product value and an increase in their rates of successful innovation (Pan et al., 2022, Babina et al., 2021, Santos et al., 2023).

Many different categories are used to classify innovation capability. Some of these categories include managerial innovation, process innovation, product innovation, radical innovation and incremental innovation (Burns, 2020). Measuring innovation is as challenging as defining it. The absence of a quantifiable scale to gauge innovation is acknowledged by researchers. Consequently, the widely accepted method among scholars to classify innovation is by categorising it as either incremental or radical innovation (Burns, 2020). Therefore, the focus of this study is on investigating radical innovation as well as incremental innovation since both types of innovation are acknowledged as being essential components of a company's capacity for innovation because they indicate two distinct levels of innovation's uniqueness (Acemoglu et al., 2022, Escrig-Tena et al., 2021).

"Radical innovation" refers to acquiring and using new information to generate new goods or services for new clients or emerging markets. It reflects the high degree of

originality that transforms the overall order of things and is accepted as the main answer to economic development (Stringer, 2000). Incremental innovation refers to increasing the firm's expertise to improve existing goods (Escrig-Tena et al., 2021). It refers to the low novelty level produced by incremental advancements in technology and product development. The acts of inheriting, changing, and developing from existing platforms are the activities that give rise to incremental innovation. Consequently, it does not involve the same level of expense or risk as radical innovation.

When resources and capacities are combined in such a way as to apply novel concepts or creative energy toward the production of one-of-a-kind goods, innovation is the result (Niroumand et al., 2020). According to the research that has been done, achieving success throughout a more extended period requires an adequate mix of radical and incremental innovation (Gong et al., 2021, Scuotto et al., 2020). To handle the many facets of product innovation, various types of product innovation may necessitate the use of distinct sets of resources and competencies during the product development. Academicians and practitioners identify kinds of product innovation using numerous criteria, such as newness, technology, and the environment. This is done since the features of product innovation are not the same and because it is not apparent how these qualities affect new product creation. Producing a product with value or advantages that did not exist is an example of radical innovation (Tidd, 2023).

In contrast, creating a product that adds features or benefits to an existing product is an example of incremental innovation (Burns, 2020). According to Tidd (2023), one of the most significant sources of uncertainty in developing new products is the degree of newness

in product innovation. According to Shehzad et al. (2021), for a company to successfully maintain its innovation efforts, it needs to work on radical and incremental advances.

Incremental innovation, as described by the OECD, is the modest enhancements of current goods and processes. It is defined as "typically involving only slight, but potentially important, improvements to the current technology" under this definition. An advance in the technology, design, and application of the product or process is all required for incremental innovation. Investing in incremental innovation through research and development (R&D) needs less work than radical innovation (Berggren, 2019). Many researchers believe incremental innovation is just improving upon what already exists. The introduction of a dominating design directly affects the development of incremental innovation. As a result, experts consider incremental innovation more trustworthy by incumbents as the lock-in process of route dependency happens more frequently in large businesses (Rakic, 2020).

Instead, radical innovation represents a transformation in the industry, a change in the method, product, or organisation (Hervas-Oliver et al., 2021). Emerging ICT technologies have led to a proliferation of terms like "radical," "breakthrough," and "disruptive" being used to describe radical innovation in the literature after the 2000s. It is a word used to describe radical shifts in technology. In their view, radical innovation develops due to a growing creative process within an organisation and is thus typically unexpected. Inventions like this challenge the status quo and set the stage for a new technological direction. A "breakthrough or radical innovation" is defined by O'connor and Rice (2001) as "the establishment of a new business—new for both the firm and for customers." As far as past studies concerned, "new" refers to a product or technique that has never been done before. Radical innovation affects both businesses and customers and the market. Radically

innovative products and services profoundly influence society since they introduce something entirely new to the company, its consumers, and its market. It is brand-new to the globe. For this to happen, there must be some sort of technological discontinuity that 'inaugurates an age of ferment, in which innovators compete to find out what kind of new idea is most suited, including refining design and enhancing technical qualities' (O'connor and Rice, 2001).

Furthermore, certain scholars distinguished between radical and incremental innovation (O'connor and Rice, 2001). They described radical innovation as the essential technological changes and included significant changes in the product or process innovation within this definition. According to Ritala and Hurmelinna - Laukkanen (2013), for organisations to successfully implement radical innovation, they need to rely on internal and external knowledge. Although radical innovation is a dangerous process that may also be expensive, it does generate new wants for customers, which in turn influences the performance of organisations in the marketplaces. When it comes to incremental innovation, leaders need to involve fresh individuals in the decision-making process who are enthusiastic about the innovation process and have unique ideas. When it comes to radical innovation, the company's executives need to engage not just the employees' minds but also their emotions in the innovation process. Because the shift has the potential to be big, there is an inherent element of risk. Therefore, leaders are obligated to conduct risk assessments, and failing to do so may result in the organisation establishing a separate enterprise or a distinct business unit to implement the new innovation (Acemoglu et al., 2022).

Based on the above discussion, the differences between radical and incremental innovation can be summarise that the most radical innovations profoundly influence the

whole economy with totally new ones. In contrast, incremental innovations are the ones that make slight improvements to existing products or processes. To be more precise, they can be compared from the degree to which a technology is employed to get a new product and the possibility to meet new consumers' demands about past goods, as when it comes to product diffusion, innovation's radicalness can be seen as a shock that affects the product's ability to adapt to the market. The more radical the innovation, the more the basic technology must be changed to produce a new product. In contrast to radical innovation, incremental innovation builds on a company's expertise to improve its present goods. The novelty of incremental innovation is minimal, and it relies on tiny tweaks to the technology or enhancements to the product.

2.6.3 CEO's Entrepreneurial Leadership and Innovation

Innovation is dictated and influenced by antecedents such as the setting in which the firm works, environmental constraints, leadership styles, organisational structures, demographic features, personnel, regulatory and compliance needs, and competition. Successful innovation entails examining all these elements and adjusting the idea for applicability within its context and surroundings (Hameed et al., 2021, Tang et al., 2020, Papa et al., 2020, Lee et al., 2020). Leaders can affect good and significant change in their organisations (Zhang et al., 2021). To effect this change, leaders must have a firm grasp of the inherent tensions and contradictions that come with an innovative plan. The leaders of an organisation need to accept this paradox, express its importance, and promote a vision throughout the company that will enable the creation of new services for the information society of the 21st century for the organisation to become more innovative. Consequently, these shifts make it possible for entrepreneurial leaders to establish brand-new creative

services and organisational capacity using a process that involves the identification, appraisal, and exploitation of chances (Rehman et al., 2021c).

Several factors, including the CEO's characteristics and the dynamics of the company's top management team (TMT) and board of directors (BOD), have been linked to the firm's ability to innovate (Gerstner et al., 2013). Because of the importance of innovation in achieving outstanding performance of the firm and building competitiveness for firms and countries to drive technical advances and economic expansion, this line of research becomes unquestionably crucial (Cortes and Herrmann, 2023). Research has shown that leadership, especially at a strategic level, is an essential predictor of product innovation since strategic leaders and their leadership behaviour in a corporation are not only accountable for strategic choices on product innovation, but they also influence individuals' creative behaviour through influencing organisational structure and innovative culture (Akbari et al., 2021a). Prior research has examined the influence of various leadership traits and behaviours of CEOs on firm innovation, including traditional ones like CEO transformational leadership, CEO transactional leadership and emerging ones like CEO visionary leadership (Cortes and Herrmann, 2021).

Among all the leadership styles, entrepreneurial leadership has been proved by many studies to have significant potential to boost a company's overall success in this fast-paced, competitive business climate. It outperforms the currently prevalent traditional leadership styles regarding driving innovation (Paudel, 2019). A company's ability to thrive in today's volatile and disruptive business climate relies heavily on the ability of its founders to exercise sound entrepreneurial judgment. An organisation ready for the challenges of today's disruptive period needs CEOs with a clear vision who can excite and inspire their employees.

An innovative new service or upgrade to a current product is often needed to increase composition and orchestration capabilities. Therefore, enhancements in entrepreneurial leadership will assist the organisation in developing new capabilities and organising them to boost innovative performance (Utoyo et al., 2020).

However, there are still gaps in the present studies on the influence of entrepreneurial leadership on organisations' innovation performance. On the one hand, existing research on the link between entrepreneurial leadership and innovation performance is unclear and requires the study in more particularly eastern cultural settings. Even while academics believe that leadership style affects a company's innovation performance, there are conflicting views on the link between entrepreneurial leadership and innovation. Scholars, meanwhile, are increasingly focusing on the importance of contextual elements, such as adoption of innovation culture or under a dynamic environment. To put it another way, entrepreneurial leadership performs differently in different organisational environments.

Furthermore, even though the link between leadership and innovation has been extensively studied, more study is still required on leadership when the objective is precisely to develop new and original goods (i.e., radical innovation) or when the objective is to enhance and improve current products (incremental innovation). An essential distinction between incremental and radical innovation can thus be a fundamental problem in this study and theorising the relationship between entrepreneurial leadership and innovation roles. In addition, it provides an opportunity to contribute by bringing together academic and practical understanding of entrepreneurship leadership.

To summarise, even while recent leadership research has dramatically improved the understanding of the relationship between CEO leadership and innovation, the

entrepreneurial side of the CEO's leadership has been under-examined, especially in China's internet business context.

2.7 Mediating Effect of Internal Organisational Factors

In Chinese business, where the fusion of ancient philosophies and contemporary practices shapes organizational dynamics, the selection of innovation culture (IC) (Liu et al., 2021), decentralization structure (DS) (Ceptureanu and Ceptureanu, 2023), and knowledge sharing (KS) (Li, 2021) as key mediators gains particular significance. Rooted in traditional Chinese philosophies, such as Confucianism and Daoism, these mediators align with the fundamental principles that underpin Chinese organizational values (Su et al., 2023). Confucian principles emphasize harmony, collectivism, and the importance of relationships – elements inherently embedded in fostering knowledge sharing a conducive innovation culture (Feng et al., 2021, Fan, 2021). Moreover, the Daoist perspective, emphasizing balance and adaptability, resonates with the need for a decentralized structure that promotes organizational agility and responsiveness (Wang, 2021).

Empirical studies within the Chinese context have consistently underscored the integrated pivotal roles of IC, DS, and KS in driving organizational success (Zhang et al., 2020a, Guterresa et al., 2020). Research indicates that organizations with a strong innovation culture are better equipped to navigate the complexities of the rapidly evolving Chinese market (Lv et al., 2021). Additionally, the decentralization of organizational structures has been found to correlate with enhanced adaptability, allowing businesses to effectively navigate the dynamic and diverse Chinese business landscape (Lv et al., 2021). Furthermore, knowledge sharing has been identified as a critical factor in leveraging collective intelligence and fostering innovation within Chinese enterprises (Gui et al., 2022).

By grounding the mediator framework in both the philosophical underpinnings of Chinese culture and empirical evidence, this study aims to provide a nuanced understanding of how IC, DS, and KS act as essential mediators within the distinctive context of Chinese businesses, influencing the interplay between leadership, innovation, and entrepreneurial behaviour.

2.7.1 Innovation Culture

Schein (1994) proposed that organisational culture should be considered when explaining innovation. He reasoned those cultural assumptions about innovation determine the organisation's processes and structures that foster innovation, so it is imperative to consider organisational culture. Giorgi et al. (2015)'s review of three decades of research on organisational culture describes five conceptualisations of organisational culture that can be found throughout organisational literature.

These conceptualisations are culture as stories, culture as frames, culture as toolkits, culture as categories, and culture as values. In the culture framework as stories conceptualisation, culture is conceived of as a succession of happenings connected causally and held together by a story. After that, these narratives are delivered to the organisation's members through the medium of storytelling, either vocally or in writing. Research along these lines has typically concentrated on culture as a medium for the transmission of ideas and perspectives, as well as for the formation of identities (Giorgi et al., 2015). In the conceptualisation of culture as frames, culture is a mental filter that influences the perceptions and behaviours of members of an organisation. It does this by influencing which aspects of a situation members of the organisation perceive as important and relevant and which aspects they do not. Culture helps to simplify the world while also shaping how it is

framed and research along these lines focuses on the communal characterisation of circumstances as the primary factor in shaping perceptions and behaviours. The culture as toolkit conception offers a new view of culture, defining it as a precursor to behaviour rather than a meaning-making process employed after the activity has already occurred. It sees culture as a collection of ideas that members of the organisation can pick and choose from to devise solutions to problems and implement those plans. The versatile and adaptable use of culture is the primary emphasis of the research under this category. People can construct their identities and give meaning by differentiating between different things, people, and practices. Culture as categories conceptualisation means that culture is a system of social classification. The studies under this category focus on culture's role in forming value judgments, legitimacy, and sensemaking. Finally, the notion of culture as values: in line with this theory, which has the most extended history in the field of study on organisational culture, culture is made up of the values and things that people treasure or want to have, which both influence behaviours and give it meaning. Research along these lines emphasises the predictability and stability of behaviour that culture provides, the role that culture plays as a source of competitive advantage, and the ceremonies and rituals constructed to perpetuate cultural values (Giorgi et al., 2015).

Giorgi et al. (2015) recognise that "the notion of culture as values is arguably the most well-known among researchers of organisations". This definition of culture has a significance and effect on culture research that is not shared by most of the other conceptualisations of culture. "Two approaches of understanding culture—as values and as toolkits—have acted as 'magnetic poles' around which much of the research in the subject converges," the authors write as their conclusion after reviewing three decades' worth of

research on organisational culture. They concluded after concluding that the five different conceptualisations of organisational culture do not stand on equal footing with one another.

Besides, Schein (2010)) also describes culture as the values and beliefs that create norms of anticipated behaviours that employees might follow. Culture can also be seen as a group's history and experiences. There is a need to clarify the words "values" and "norms." A person's values are "evaluative standards relating to work, or the work environment, by which individuals discern what is considered 'right' or 'wrong' " (Hogan and Coote, 2014). The foundation of organisational culture is found in the organisation's core values, which are conveyed to group members via norms, artefacts, and behaviour patterns. When considered as a whole, values and norms provide the basis for building routines and practices.

In contrast to values, which are overarching social principles, norms are specific accepted patterns of behaviour that form the basis for social expectations regarding behaviours. Therefore, norms are more pronounced, honest, and straightforward to grasp and recall than organisational principles and assumptions. In addition, values are embedded in norms since norms are the vehicle through which values are transmitted. Individuals can witness one another's normative conduct, imitate it, and, as a result of this social learning process, deduce and reinforce the values that underpin them since norms are the concrete and apparent expressions of values (Ngar-yin Mah et al., 2021). The expression of norms might take the form of objects such as symbols, rituals, language, and even the architectural layout of the workplace (Spicer, 2020). For instance, a company committed to advancing the value of equality may do away with status symbols, such as lavish lunchrooms and offices reserved exclusively for senior management.

Over the past four decades, there has been a shift in the methodologies, approaches, and focal points of research on the connection between culture and innovation. In the 1980s, case studies began stressing that culture influenced creativity (Spicer, 2020). These studies have continued ever since. A decade later, in the 1990s, qualitative and quantitative research approaches dug further into the link to investigate how culture influences innovation (Spicer, 2020). The onset of globalisation in the 2000s contributed significantly to developing ideas like innovation-oriented culture and the increased attention paid to these ideas (Spicer, 2020). In the 2010s, scholars finally started paying more attention to the function of mediators and moderators, and ideas like learning-oriented culture and the competing values framework started becoming prominent (Anning-Dorson, 2017). Another shift occurred not long ago when researchers shifted their focus from primarily conducting their studies in Europe and North America to researching in China (Anning-Dorson, 2017).

Furthermore, in addition to a historical study of the literature, examining some of the most prominent theories of creativity and innovation demonstrates that organisational culture is frequently referenced, either explicitly or indirectly. For instance, in line with the interactionist perspective (Anning-Dorson, 2017), it is considered a component of the contextual factors that are ingrained in the workplace. It is mentioned as an organisational force that shapes motivational factors in the componential model (Conti et al., 1996). The paradoxical part that culture can play in the creative process highlights how vital it is to have a solid grasp of the connection between culture and innovation within an organisation. It can act as a mechanism for social stability using shared norms and beliefs that support the existing organisational environment and a mechanism for change and adaptation by permitting the conscious assessment of shared norms, values, and intended results. Therefore, culture can act as both a barrier to and an enabler of innovation. It can serve either as a

linchpin, which managers can use to pivot the organisation or as a social glue, which maintains a tight hold on a particular organisational setup.

In conclusion, the term "innovation culture" refers to the values, beliefs, and assumptions held in common by members of an organisation and have the potential to make the innovation process more successful (Hofstede, 1980). This attitude toward an "innovation culture" is significantly more prominent in Western nations than in countries that have operated under a communist economic model (Dabić et al., 2018). In addition, the dominant innovation model during communism was typically a linear one, and the role of the Chinese government has fundamentally shifted from that of an "entrepreneur" to that of a facilitator and regulator of private enterprise. During communism, China's economy was initially dominated by state-owned enterprises. A company's innovativeness is often defined as its propensity to introduce new methods, goods, or ideas into the market. It is a component of an organisation's culture that affects the likelihood that a company will innovate. The findings of recent studies on the importance of an innovation-oriented corporate culture in increasing a company's innovativeness demonstrate how culture may positively affect business performance (Zeb et al., 2021, Lam et al., 2021). This further underscore the significance of the current study, which aims to investigate the mediating link between entrepreneurial leadership and innovation performance in CIEs through innovation culture.

2.7.2 Decentralisation Structure

An organisation's structure can be characterised by how work gets done, how people get along, and who has what power. Defining structure can be done in a variety of ways. A company's structure can be determined by its level of formalisation and centralisation, as well as its organic or mechanical nature. When defining a company's structure, there are

several ways to consider the arrangement of departments or work units. The structure significantly influences an organisation's entrepreneurial activity (Lam et al., 2021).

Organisational structure is crucial for innovation because it should be structured to assist the production of new ideas and the effective execution of these ideas. This is why organisational structure should be vital for innovation. A less rigid structure with less emphasis on formality and hierarchy will be more conducive to the free circulation of ideas that can develop into innovations at the initiation stage (Lam et al., 2021). Nevertheless, throughout the implementation stage, a greater emphasis must be placed on the process to achieve the new product or service's timeline, quality, and dependability criteria. Dess et al. (1999) have stated that to overcome the barriers of hierarchy-driven organisational structures, businesses must adopt a barrier-free organisation to support the knowledge growth required to develop new services. On the other hand, Dess et al. (1999) argue that a company's ability to manage various inconsistent and contradictory needs can be helped by utilising a variety of organisational structures.

As stated by Jansen (2005), structural differentiation can assist companies in concurrently conducting exploratory and exploitative activities and dealing more successfully with the organisational tension resulting from this combination of activities. Creating distinct organisational structures for exploration and exploitation, analogous to that of the traditional R&D organisation, is one method for efficiently carrying out distinct tasks. This viewpoint was backed by Damanpour and Gopalakrishnan (1998), who pointed out that firms operating in uncertain settings will require specialised units to implement more radical ideas. Kimberly and Evanisko (1981) demonstrated a positive correlation between organisational complexity and creativity. The diversity and quantity of various units inside

the organisation describe this complexity. Conversely, differentiation can meanwhile be a barrier, leading to new terminology and knowledge bases for each party, which impedes communication and therefore innovation (Kimberly and Evanisko, 1981).

In light of the facts that have been presented, it would appear that the two stages of the innovation process, namely the stage in which the innovation is initiated and the stage in which it is being implemented, each need two organisational structures that are unique from one another. Ettlie et al. (1984) also developed a model that focuses on organisational strategy and a structure that leads to radical and incremental innovations to account for different ways of innovating. This model was created to account for different innovation approaches. In accordance with the conclusions of their research into the food processing sector, radical innovation is encouraged by an aggressive technological strategy, a centralised decision process, informal structures, and a concentration of technical specialists. Ettlie et al. (1984) also discovered that vast size appears to have a detrimental influence on radical ideas. This is because larger organisations require more formal structures to manage effectively. They indicate that more conventional companies may be able to counteract the size influence by dividing architecturally to accommodate both radical and gradual innovation. In a study that focused on the consequences of bureaucracy, Jansen et al. (2006) concluded that centralisation has a detrimental influence on exploratory innovation. In contrast, formalisation has a favourable influence on exploitative innovation.

Depending on the organisational structure, the entrepreneurial endeavour of a company might either fail or succeed. Following previous studies, there should be an organic focus wherever there is a high degree of entrepreneurialism (Basco et al., 2020). This is because risk-taking managements tend to take advantage of opportunities and commit

resources before fully comprehending the activities required. Organisations cannot adapt to changing conditions unless management is adaptable (Santos-Vijande et al., 2022). Firms that act entrepreneurially can similarly stimulate aggressive or creative conduct from their industry competitors. Studies show that the influence of a leader's activities on innovation depends on the organisational structure, and the latter influences the placement and flow of information and competencies, as well as the pattern of connection among organisation members (Neubert et al., 2016).

In Darvishmotevali(2019)’s latest study, entrepreneurship organisations frequently adopt specific structural qualities that allow flexibility and quick decision-making to adapt to others' activities. Considering that decentralisation is a form of organisational structure in which decision-making tasks are delegated to low-level managers and staff. This sort of structure is known as "delegation management." When choices are decentralised to a lower staff level, those employees are given more authority and autonomy to make such decisions. The flow of ideas, opinions, and choices is more organic and bottom-up in a decentralised system than in a centralised one (Kafaji, 2020). As a result of decentralisation, all members can make choices, find solutions to difficulties, and maintain control of the situation with incredible speed. Decentralisation offers various advantages for those firms who strive to have competitive strategies (Bárcena-Ruiz and Olaizola, 2004). The business's overall strategy should determine the structure of an organisation. The organisational structure must be organic if a firm pursues an innovation strategy. It necessitates dismantling the structure, maintaining a low level of formalisation and specialisation, and increasing the level of decentralisation (Darvishmotevali, 2019).

Therefore, in CIEs, the persistence of traditional structures and centralized authority, rooted in Chinese hierarchical tradition, poses challenges to the free flow of ideas across units. Notably, emerging CIEs like Alibaba and Tencent have embraced decentralized organizational structures. Consequently, this study aims to investigate whether the decentralization structure mediates the relationship between entrepreneurial leadership and innovation performance in CIEs.

2.7.3 Knowledge Sharing

It is well acknowledged that knowledge is a crucial driver of innovation and the generation of competitive advantages (Ferasso et al., 2022). Hock-Doepgen et al. (2021) also noted that knowledge is a valuable resource for innovation, generating a distinctive market position for an organisation that invests effectively and efficiently in knowledge management. Knowledge was referred to as the "lifeblood" of any organisation by Mittal et al. (2023), essential for an organisation to maintain its existence and remain competitive in the marketplace. It maintains high creativity and accomplishes the organisation's objectives. Castaneda and Cuellar (2020) noted that because knowledge plays such an important role, there is an essential requirement for establishing a knowledge-sharing system that is both effective and sufficient.

The importance of knowledge sharing was something that several researchers brought up, and they discussed and investigated the benefits of doing so (Arsawan et al., 2022). They emphasised the importance of knowledge sharing as a means for an organisation to cut costs, develop a new product, enhance the performance of its employees, create new initiatives, generate innovation, strengthen its innovation skills, and achieve a competitive advantage. These advantages of knowledge sharing highlight the significance of knowledge

management and motivate businesses to devote more resources and effort to this area of knowledge. Based on the findings of Supar (2012), a few elements influence knowledge sharing. Culture, technology, communication, and organisational variables are all included in this category of factors. In addition, they discovered that sharing knowledge benefit the organisation's performance and this highlights the significance of knowledge sharing.

Knowledge sharing was also mentioned by Serenko and Bontis (2009) as an essential aspect of an organisation. As stated by Singh et al. (2021), when workers have the desire and willingness to share their knowledge, their performance will be enhanced, and their organisation will also acquire competitive advantages. Azema and Jafari (2016) emphasised how important it is for an organisation to share its knowledge with its members. People are known to impart both their knowledge and their experiences to one another inside an organisation. This process also influences managers and leaders, and at the same time, it enables them to make more effective judgments. They went on to say that the sharing of knowledge is the most critical factor that can assist an organisation in establishing a competitive advantage, innovation, increasing efficiency, reducing the amount of time required for the creation of a new product, enhancing performances, enhancing customer services, reducing the amount of time required for delivery, and lowering costs. It is often regarded as one of the most important tasks associated with managing knowledge in an organisation. Given the significance of knowledge sharing within any organisation, that organisation must remove any obstacles that stand in the way of sharing (Azema and Jafari, 2016).

In line with Darr and Kurtzberg (2000), new knowledge can inspire innovation in the form of a new product or new procedures, both of which can enhance the processes that are

followed in an organisation. Nonaka (2009) hypothesised that innovation is linked to producing new knowledge. As Nonaka(2009) pointed out, knowledge could serve as a source of innovation, but innovation, in turn, can generate new knowledge. Tsai (2001) also mentioned that new knowledge and sharing knowledge are essential in creating new ideas and developing and innovating new products. In line with the findings of Storey and Kelly (2002), a primary barrier to innovation, particularly in service organisations, is a lack of knowledge. In addition, Subramaniam and Youndt (2005) highlighted that collecting and acquiring new knowledge will create innovative ideas. It can assist in developing a new product and creating new manufacturing processes, marketing strategies, or organisational structures. According to Gürlek and Cemberci (2020), an organisation's innovation ability is bolstered by investing in its employees' ability to share knowledge. Mothe et al. (2015) further explained that an organisation's primary focus on acquiring knowledge constitutes a crucially significant investment. They went on to say that efficient knowledge management benefits the organisation, particularly in creating new goods. They suggested that the organisation should improve its capabilities to reap the benefits of knowledge management, which would produce innovative ideas and the essential aspect of innovation is not knowledge in and of itself but rather the knowledge to use at the appropriate time and location to generate and improve innovation.

In addition, Kim and Nelson (2000) characterised knowledge sharing as a dynamic learning process. This ongoing learning process involves interactions between workers, consumers, and suppliers. This procedure assists the organisation in developing new concepts, innovating a new product, or generating new procedures that potentially save expenses in general. According to Kim and Nelson (2000), any organisation needs to consider innovation, produce continual innovation through for-profit or not-for-profit

activities, and contain information based on knowledge sharing. Suppose an organisation wants to reach and maintain a position of superiority in its industry. In that case, it must discover new areas of value and cultivate a diverse body of knowledge within and beyond its walls. Kodama(2005) further mentioned that the organisation significantly emphasises sharing and disseminating new values among its adherents as an essential component. The followers can educate one another and gain knowledge from one another. He stated that if a company wants to gain a competitive advantage, it must do so through superior knowledge sharing and managing it well, both within and outside the company, before implementing new technology, developing new products, or improving innovation. Kodama(2005) also mentioned that to have a competitive advantage, one must have an acceptable leadership style and effectively manage one's knowledge. Any organisation may benefit from this connection by increasing its ability to compete and accomplish its goals.

Besides, researchers made a distinction between radical innovation and incremental innovation regarding the influence of knowledge sharing (Nguyen et al., 2022). Radial innovation necessitates not only the knowledge of generation but also its sharing, administration, and upkeep (Zhou and Li, 2012). Scholars elaborated by saying that the knowledge held within the organisation is the single most valuable resource for radical innovation, and an organisation's knowledge may generate new ideas, which would assist the organisation in achieving market possibilities (Zhou and Li, 2012). On the other hand, Laursen and Salter (2006) claimed that knowledge may inspire new ideas even without attempts to translate these ideas into totally new products, which will also help create incremental innovation. Therefore, it is profitable to disseminate information within an organisation by engaging in "knowledge sharing". It is a type of knowledge integration integrated into the organisational knowledge acquisition process over time, and it aids

companies in expanding their knowledge base. It has been shown that innovation is positively correlated with the growth of knowledge sharing that demonstrates absorptive (Tortoriello et al., 2015). Based on previous studies, organisations that share information do better than those that do (Ritala et al., 2015). Employees' inventiveness soars when information is freely exchanged throughout the company. The spread of organisational expertise and skills is accelerated by strengthening existing professional knowledge and organisational processes by sharing knowledge (Rahman et al., 2016). It also improves internal work coordination and employee behaviour consistency by activating internal organisational practices and combining varied organisational information efficiently (Yi et al., 2019).

In conclusion, knowledge-sharing significantly influence an organisation's ability to innovate alongside leadership approaches (Elrehail et al., 2018). Employees' knowledge, experience, and talent are often critical to the value-generation process in a firm. An effective strategy for stimulating new ideas is exchanging knowledge. Workers in an organisation must constantly draw on their co-workers' tacit knowledge (skills and experience) or exploit the explicit information already present in the company to execute new jobs. As a result, a company's ability to foster shared knowledge among its workers, groups, and the organisation is expected to generate fresh ideas and concepts valuable for establishing new business. An organisation's learning activities and problem-solving are tied to ongoing knowledge sharing linked to market orientations, resulting in advances in the company's market sensing and innovation efforts (Ganguly et al., 2019). In addition, past studies have shown that an organisation's ability to respond to customer wants and requirements more quickly and at a lesser cost would be facilitated by the ongoing sharing of knowledge (Singh et al., 2021). Therefore, knowledge-sharing techniques are essential to promoting innovation.

Considering this, this study will examine the mediating role of knowledge-sharing on EL's influence on the innovation performance of CIEs.

2.8 Moderating Effect of External Factors

A moderator is a variable that consistently alters the form and intensity of the link between a predictor variable and a criterion variable (Baron and Kenny, 1986). Moderators might explain contradictory results of research. It is thus recommended that the first step in a research project is to examine how a third variable (the moderator) affects the connection between two variables (Hall and Rosenthal, 1991). Hall and Rosenthal (1991) proposed that moderator variables are at the centre of scientific endeavour, clearly support the significance of examining moderating effects in the literature.

Business executives are very concerned about innovation. When it comes to fostering new ways of working, managers worldwide encounter various problems. There is no assurance that one country’s innovation-inducing practices will succeed in other circumstances (Watts et al., 2020). In addition, the work environment that encourages individuals to engage in creative work practices differs widely. Furthermore, employees' inventive behaviour is recognised to be influenced by their perceived need, willingness, and capacity to innovate, or readiness for innovation since innovative people can be viewed as "rocking the boat" (taking a risk) by their colleagues since their ideas disturb the status quo and produce uncertainty and opposition inside the firm (Tan et al., 2021).

The size of the association between leadership and organisational factors is highly changeable from near-zero to big in some circumstances and somewhat negative to fairly positive in others (Hughes et al., 2018). There may be moderating, contextual elements that influence the nature of the correlations. Much research has looked at the moderating factors

that increase or decrease the beneficial benefits of "positive leadership" and the negative consequences of "negative leadership (Mokhber et al., 2018)."

The external environment is a significant set of key components because of its pivotal influence on developing entrepreneurship theory and research. The term "external environment" refers to the forces and elements outside of an organisation's borders that influence and are influenced by the actions of an organisation, as well as more general economic, sociocultural, political-legal, and technological forces that provide a broader context for the operations of an organisation (Covin and Slevin, 1991). In recent years, some academics have created ideas and performed studies that show the external environment is inextricably linked with the entrepreneurial process, such as the influence of fiscal and regulatory environments on entrepreneurial activity, example, by Raza et al. (2020), who note that political-legal forces can have a significant influence on the prevalence and success of new ventures. Numerous studies have shown that the external environment significantly influence the existence and efficacy of entrepreneurial activity, using various approaches and models.

In the field of organizational studies, the theoretical foundation underpinning the selection of technology turbulence (TT), environmental dynamism (ED), and market orientation (MO) as moderators is rooted in established frameworks that explain the relationships between leadership, innovation, and organizational dynamics (Zhang et al., 2023, Park and Xiao, 2020, Hernández-Linares et al., 2021). The choice of TT as a moderator emanates from the recognition that, theoretically, it captures the magnitude of uncertainty and rapid technological changes, aligning with the current technological changes in past decade in China (Khan et al., 2020). As Chinese organizations grapple with the evolving

technological landscape, understanding how leadership influences innovation in conditions of high technology turbulence becomes paramount (Jin et al., 2022). Similarly, the theoretical justification for incorporating ED as a moderator is anchored in organizational theories emphasizing the adaptive strategies required in dynamic environments (Zhang et al., 2020b). The concept of ED encompasses broader environmental changes and uncertainties, rendering it a critical factor in comprehending how leadership practices adapt and shape innovation outcomes. In the context of China, characterized by rapid urbanization, policy shifts, and market transformations, the theoretical significance of ED is particularly germane to the challenges faced by enterprises operating in this dynamic socio-economic milieu (Zhang et al., 2020b, Garriga et al., 2023). Furthermore, the theoretical lens on market orientation (MO) underscores its centrality in organizational strategies geared towards innovation. Theoretical frameworks advocating for market-focused approaches posit that organizations attuned to market dynamics are better positioned for innovation and adaptation (Hernández-Linares et al., 2021). In the context of China's status as a major global market after joining into WTO, understanding how leadership strategies aligned with market orientation contribute to innovation outcomes assumes heightened importance (Tan, 2021). Investigating how market orientation influences innovation outcomes provides valuable insights for businesses navigating the complexities of the Chinese market.

2.8.1 Technology Turbulence

Technology has been and continues to be an essential competitive weapon for most organisations in the past and present (Frohman, 1982, Lee and Park, 2020). Putra and Darmawan (2022) has a perspective that is quite like this one, and he asserts that the cause of technological turbulence is the fact that, in recent times, technology has seemed to be the primary source of a source of competitive advantage. This lends credence to the claim made

by Jin et al. (2022), which states that the distinguishing qualities of products and services in industries and markets that experience a high level of technological turbulence primarily depend on innovations made both within and outside the industry and market. According to Li et al. (2020c), companies who are actively involved in striving to learn about the shifting tastes and preferences of consumers and competitor activities and that incorporate this market information in their entire organisational processes would outperform rivals that are not concerned about these technological advances in any manner. It should be highlighted that properly integrating these technological innovations into the organisation's procedures might prove to be a burdensome task, as this would require the participation of several different divisions, including technical, marketing, financial, and human resources. Santos et al. (2023) provided several reasons that make the difficulties involved with managing technology considerably more difficult. These problems include the high failure rate during product market introduction, the expense of technical development, the complexity and pace of the technology, and the acceptance of products by customers.

Technology turbulence (TT) stands as one of the three facets of environmental turbulence, alongside market turbulence and competitive intensity, as outlined by Shoham et al. (2005). Technology turbulence, defined as the pace of change in process and product technologies employed in transforming inputs into outputs, is often regarded as a pivotal component of environmental turbulence, with some scholars asserting its utmost significance (Jaworski and Kohli, 1993, Moorman and Miner, 1997). Mason and Staude (2007) underscores this viewpoint, attributing environmental turbulence to shifts in the interaction among various environmental factors, particularly driven by advancements in technology and the convergence of computer, telecommunications, and media industry. The influence of TT extends to shaping firms' strategic implementation and even prompting the

formulation of novel strategies. Additionally, TT is construed as the unpredictability of technology within the marketing environment (Song et al., 2005), requiring firms to adeptly manage it by leveraging their technology-driven knowledge resources.

According to Santos et al. (2023), the term "technological turbulence" refers to the shift in technology that brings about unpredictability in the administration of business processes. Technology not only plays a vital role as an enabler of organisational changes that can lead to substantial productivity increases, but it also constitutes a danger to enterprises, especially the small ones with little resources to exploit the opportunities it presents (Santos et al., 2023). One definition of technology turbulence is "the rate at which technology is changing in the industry" (Jaworski and Kohli, 1993). A rapidly evolving technology landscape is defined by "short product development cycles and swift technological obsolescence" (Atuahene-Gima and Li, 2004). While this might be an opportunity for companies to "create stronger competitive positions by altering or upgrading their goods", it also carries risks due to the high failure rates that uncertainty is known to cause. Maintaining a competitive advantage in situations subject to rapid change requires businesses to acquire new knowledge and supply new solutions more expediently (Santos et al., 2021).

In this day and age of digitalisation, business owners must navigate a landscape fraught with the uncertainty of technological change. The term "perceived technological turbulence" refers to the perception that business owners have regarding whether or not the technology in their industry is changing quickly, whether or not these changes are difficult to predict, and whether or not these progressions present significant opportunities for new product developments (Folger et al., 2022). In entrepreneurial and technology forecasting

research, using the perceived environmental uncertainty and turbulence lenses is an active study stream. In addition, Hoffmann et al. (2018) contend that technological turbulence is not uniform across the entirety of the sector and that individuals have varying experiences with it depending on the "perceived adaptive ability" they have to deal with it.

Therefore, technological turbulence, characterised by rapid and unpredictable changes in technology and industry standards, is pivotal in moderating the relationship between entrepreneurial leadership and key organisational factors (Puriwat and Hoonsopon, 2021). Notably, within the context of innovation culture, technological turbulence maybe amplifies the significance of leadership (Iqbal et al., 2021). In environments marked by constant technological flux, entrepreneurial leaders exhibit a heightened influence on fostering an innovation culture. Their visionary approach, marked by a willingness to embrace uncertainty, aligns seamlessly with the demands of rapid technological change. Innovation culture thrives under the guidance of entrepreneurial leaders in turbulent technological landscapes (Sawaean and Ali, 2020). These leaders create an environment that values innovation, actively promotes the exploration of emerging technologies, and encourages employees to experiment with novel ideas. This aligns with the heightened need for innovation and empowers the organisation to navigate the complex terrain of technological disruption.

When considering the influence of technological turbulence on decentralisation structures, adaptability emerges as a critical theme. Entrepreneurial leaders recognise the necessity for agility and responsiveness in constantly changing industries. They adapt by advocating for decentralised decision-making structures that empower teams to make swift, informed decisions in response to technological changes (Darvishmotevali, 2019). This

approach enhances organisational flexibility, enabling the swift seizing of technological opportunities and facilitating adaptation in the face of technological disruptions.

Furthermore, knowledge sharing, a key driver of organisational adaptability in turbulent technological environments, thrives under leadership (Lei et al., 2021). In these settings, knowledge becomes a critical asset, and entrepreneurial leaders play a pivotal role in fostering continuous learning and knowledge sharing. They acknowledge the importance of employees staying updated with emerging technologies and sharing their expertise to navigate turbulence effectively (Shehzad et al., 2022). Leaders facilitate knowledge-sharing initiatives, encouraging cross-functional collaboration and knowledge exchange (Al-Husseini et al., 2021). This empowers the organisation to adapt swiftly to technological changes and positions it to capitalise on emerging opportunities (Zhang et al., 2023).

To summarise based on the discussion above, technological turbulence accentuates the importance of entrepreneurial leadership in fostering innovation culture, adapting decentralisation structures, and promoting knowledge sharing. As organisations strive to remain competitive in turbulent technological landscapes, entrepreneurial leadership emerges as a strategic asset for navigating and thriving in this ever-evolving terrain.

2.8.2 Environmental Dynamism

The concept of environmental dynamism was first mentioned by Miles et al. (1974). In that study, the authors said that the velocity of environmental change and the unpredictability of environmental change must be distinguished. Furthermore, according to Miles et al. (1974), dynamism is unpredictability in change, which creates doubt for business leaders. After that, Miller and Friesen (1982) looked at traditionalist and pioneering perspectives on innovation, with environmental change as a moderating factor. The

conservative paradigm held that innovation was not a natural process and that dynamic environments, full of risks and difficulties, were necessary to foster creative thinking. The entrepreneurial model regarded innovation as a desirable consequence, and businesses that adopted this approach did very well in highly dynamic situations. Companies with an entrepreneurial spirit can contribute to increased environmental dynamism.

Dess and Beard (1984)'s study of the literature on organisation theory defines dynamism as the outcome of "turnover, absence of pattern, and unpredictability." The term "dynamism" should only refer to changes that are difficult to anticipate and increase the unpredictability level for important organisational members. "It indicates that organisations facing dynamic environments must innovate in order to prosper," said Garg et al. (2003), "Firms that tackle uncertainty where it occurs, via innovation, often outperform those that disregard its presence".

"Environmental dynamism" relates to the "volatility of the firm's market, the ongoing changes that occur in circumstances, and the unexpected moves of consumers and rivals," as defined by Ruiz-Ortega et al. (2013). It has been shown empirically, and theoretically that entrepreneurial leadership may boost innovation, which, in turn, can contribute to improved performance. On the other hand, both direct and indirect influence occur against the background of significant environmental variables. The environment has been identified as a critical aspect in organisational and management theories as a driving force behind leadership, innovation, and performance (Do et al., 2022, Popa et al., 2022). Scholars have suggested that entrepreneurial leaders are necessary in dynamic environments since standard business and leadership practices are inefficient in improving organisational performance (Visser and Scheepers, 2022). Unpredictability, degree of variability, and frequency of

change in a company's external environment are the components that make up environmental dynamism (Uno et al., 2021). Individuals and businesses operating in dynamic settings are subject to more significant uncertainty due to the unpredictability and rapidity of the environment's change (Agyapong et al., 2020). On the other hand, a stable environment is characterised by certainty, predictability, and routine events. These characteristics produce little ambiguity about future paths and place low pressure on leaders and organisations (Vanderstraeten et al., 2020).

McKelvie et al. (2018) explained different forms of dynamism are discernible, namely technological dynamism and market dynamism. According to Rodrigo-Alarcón et al. (2017), technological dynamism pertains to the perception of swift changes in technological advancements within the industry, often accompanied by an influx of competitor products (Rodrigo-Alarcón et al., 2018). In contrast, market dynamism relates to the extent of changes in product and service preferences, client needs, and the composition of customers (Rodrigo-Alarcón et al., 2017). Given the focus on technological dynamism from the perspective of technology turbulence has been discussed in last section, the subsequent discussion centres the definition of environmental dynamism on market dynamism, which method was adopted by Surty and Scheepers (2020) and utilized in this study on investigation of environmental dynamism from market perspective. Market dynamism exerts significant disruptive effects on businesses, influencing manufacturing design, cost implications, and the requisite employee profile to meet evolving customer needs. Incorporating environmental dynamism as a moderator, this study aims to explore the extent to which the relationship between entrepreneurial leadership practices and innovation performance is positively moderated by environmental dynamism.

Compared with stable environments, environments fraught with dynamism can lead to organisational settings with stress, anxiety, pressure, and danger. The firm's leader must be responsive to scanning the external business environment to implement creative strategy and increase company performance. Besides, the dynamic business environment gives significant market possibilities (Surty and Scheepers, 2020). When there is intense competition, businesses must develop new products and services, investigate untapped markets, and think of creative new methods to compete. To gain a competitive edge for their company, leaders must urge followers to perceive the changing environment as a source of opportunity and promote change and innovation (Chen et al., 2022a). Moreover, the dynamic atmosphere allows entrepreneurial leaders to inspire their followers to spot and pursue possibilities by generating a collective feeling of excitement. Leaders who have an entrepreneurial mindset inspire others to question the status quo, make radical changes, and take inventive action by reframing the problem and accepting uncertainty (Uno et al., 2021). They encourage creative thinking and support innovation in an environment that is becoming more volatile and competitive. Examples include quick product and service creation, development, and commercialisation (Dabić et al., 2021). In organisation innovation studies, researchers have discovered moderators exist among the significant correlations between entrepreneurial leadership and innovation, such as, environmental dynamism is a moderating factor in the link between leadership and innovation (Uno et al., 2021, Boadu et al., 2022).

Those who can concurrently assess more options tend to do better in dynamic circumstances than those who do not. Businesses in this predicament face the issue of their old products and services becoming obsolete and having their revenues swiftly eroded by competitors. The dynamic and unpredictable dynamism of the environment may force managers to rely on their creative talents to develop innovative solutions and ideas for new

goods and processes (Visser and Scheepers, 2022). To mitigate this risk, companies invest money in research and development, actively acquiring new technology, monitoring emerging client preferences, creating and innovating new products and services, and so on. As a result, it opens up the possibility of returns that are higher than average, which can contribute to improved overall performance (Zhang and Zhu, 2021). Existing study findings imply that innovative companies can perform excellently in turbulent and hostile circumstances (Fatoki, 2021). This dynamic external context significantly influences how leadership shapes critical dimensions within organisations, including innovation culture, decentralisation structure, and knowledge sharing (Deng et al., 2021, Adana et al., 2023, Taghizadeh et al., 2020).

Therefore, a positive interaction influence of environmental dynamism or a tight link between entrepreneurial leadership and innovation culture will likely be aided under a dynamic environment instead of a stable environment in the Chinese internet business setting. When examining its influence on innovation culture, it becomes evident that environmental dynamism accentuates the significance of entrepreneurial leadership in fostering innovation. In highly dynamic environments, where rapid adaptation to changing market conditions is essential, entrepreneurial leaders are more effective in promoting an innovation culture. Their visionary outlook, marked by a willingness to embrace uncertainty, aligns with the heightened need for innovation in such turbulent contexts (Zhang et al., 2020b). In the field of innovation culture, the influence of entrepreneurial leadership is accentuated in environments marked by constant change. Entrepreneurial leaders, with their risk-taking propensity and visionary outlook, align seamlessly with the ever-evolving nature of dynamic markets (Deng et al., 2021). By challenging the status quo and fostering a culture that

embraces experimentation, entrepreneurial leaders empower their organisations to stay ahead of rapidly shifting market dynamics (Dabić et al., 2021).

Decentralisation structure also adapts under the influence of leadership in dynamic environments. This approach empowers teams to make swift, informed decisions that align with the rapidly changing external landscape. It enhances organisational responsiveness and agility, enabling teams to react swiftly to emerging opportunities or threats in the dynamic market (Uhl-Bien and Arena, 2018). Furthermore, knowledge sharing, a critical driver of organisational adaptability, thrives under the guidance of leaders in dynamic environments (Abdelwhab Ali et al., 2019). Recognising the paramount importance of continuous learning, entrepreneurial leaders foster a culture of learning and knowledge exchange. Employees are empowered to stay updated with changing market dynamics and share their insights, facilitating effective navigation of unpredictability (Rafi et al., 2022). Entrepreneurial leaders actively facilitate knowledge-sharing initiatives, encouraging cross-functional collaboration and expertise exchange. This supports rapid adaptation to market changes and positions the organisation to capitalise on emerging opportunities in dynamic markets.

In conclusion, as evidenced by the preceding discussions, environmental dynamism assumes a pivotal role in moderating the relationship between entrepreneurial leadership and key organizational outcomes, underscoring the significance of entrepreneurial leadership. Within dynamic environments, entrepreneurial leadership emerges as a catalyst, fostering an innovation culture, facilitating adaptive decentralization structures, and championing knowledge-sharing initiatives. This multifaceted approach empowers organizations to not only navigate but thrive in the face of unpredictability and rapid changes within their external landscape. Within the unique context of China's business environment, characterized by

rapid changes and unpredictability, entrepreneurial leadership takes on a paramount role. It becomes a driving force in cultivating an innovation culture, steering adaptive decentralization structures, and spearheading knowledge-sharing initiatives. This strategic alignment by considering environmental dynamism empowers Chinese organizations to not only navigate but effectively thrive amidst the complexities of their distinctive external landscape, demonstrating the adaptability and resilience essential for success in the Chinese business context.

2.8.3 Market Orientation

The idea of market orientation recognises the need of businesses to draw their attention and activities more intently toward their end users (Narver et al., 1998). Market orientation, often known as a business philosophy, serves as the basis for analysing and satisfying customers' needs and for integrating and putting marketing principles into practice inside an organisation. Although it is widely acknowledged that a strong marketing strategy should help speed economic growth and improve competitiveness, most active businesses in developing nations overlook this aspect of their operations. Market orientation as a strategy requires a longer time to execute, which generates a tremendous competitive advantage. It is viewed as an invisible asset for organisations and is not simple to mimic because it is difficult to replicate. Randhawa et al. (2021) states that market orientation is a foundational marketing and strategic management component. A company's external orientation towards marketing can be characterised as market-driven or market-oriented, depending on the company's perspective. In addition, the idea of market orientation is highlighted as an approach that has been demonstrated to be effective in improving the overall business performance of a firm.

An organisation's capacity to quickly adapt its offerings in response to changes in customer demand is highlighted by market orientation (Khan and Bashir, 2020). Much previous research has conclusively demonstrated that highly market-oriented organisations perform superiorly to firms with less market orientation in their businesses' financial and non-financial aspects. These businesses have a high degree of market orientation, and as a result, their products and services are developed according to the requirements and expectations of their customers (Yang et al., 2020, Tang et al., 2021). In addition, businesses that place a high value on market-oriented behaviour generate shared values and beliefs within the organisation. This allows the company to achieve customer-focused business by putting the needs of the customer first, which in turn will result in increased profits, decreased costs, and the ownership of a competitive advantage that can be (Correia et al., 2020).

When an organisation adopts market-oriented behaviours, this will improve team spirit, increase employee satisfaction and pride and promote the production of highly devoted workers toward the organisation. A market-oriented organisation will cause its sales team to become more exposed to the outside world, which will help the organisation determine its current position. Additionally, this will help the organisation gain a better understanding of the necessary tasks that need to be performed in order to achieve a more advantageous position in the (Alhakimi and Mahmoud, 2020). Furthermore, a market-oriented behaviour that is well established in an organisation will train the entire workforce to have self-esteem, which will, in turn, indirectly increase employee commitment. Similarly, market information and the management of such information are seen as significant functions when concentrating on innovation performance. Previous empirical research proves the moderating effect of market information on organisational innovation (Randhawa

et al., 2021). According to Puspaningrum (2020), a firm being market-oriented denotes that the firm is prepared to deliver products and services according to the demand and preference of the customer. This can usually be accomplished in two ways, namely monitoring the ongoing conditions of the market and organisation adaptation with response. Market orientation is regarded as a learning process that lays the groundwork for organisations to gain knowledge from all relevant components of the business environment, such as customers and rivals while considering the organisation's long-term and short-term objectives. In general, it is essential for a company to continuously assess its customers' needs, identify market shifts by developing its market orientation, and act swiftly to realign its marketing strategies and activities after conducting an appropriate review. These are all essential parts of a successful business. Therefore, market orientation, either as a philosophy or a strategy, has grown increasingly significant in the business world, and research on market orientation continues to be conducted prolifically.

In China, Mao considered the market an "embodiment of capitalism" in his "theory of constant revolution." He opted for a system based on a centrally planned economy. Chinese enterprises could not be more market-oriented because the central plan influenced national output. On the other hand, the market track of the dual-track system permitted economic actors to engage in the market, but they were also obligated to perform their social responsibilities (Puspaningrum, 2020). Many Chinese still believe that private businesses have a moral duty to contribute to the well-being of society. According to Hsu (2006), in ethnographic research, some entrepreneurs were viewed as cadres and graded on their capacity to give socialist advantages. Though considering the importance of customer and employee empowerment is critical to market orientation, political and business leaders in communist economies desire to retain control over their powers and decisions and hence

reject the empowerment of their workers. However, companies in China have been steadily importing management practices from the West. As a result of this growing market awareness, many Chinese companies are quickly picking up marketing best practices, including branding and advertising. Studies in various industries have shown that Chinese companies are becoming more market oriented. China, for example, has the world's second-largest ad market. Applications for trademark registration are multiplying at an alarming rate (He et al., 2020).

These days, industrial cluster businesses are also particularly well-versed in market (Zhu and Lin, 2022). Chinese companies have seen the advantages of market orientation from an organisational standpoint. As a result, market orientation has been found to benefit employee attitudes, job satisfaction, and organisational loyalty in Chinese enterprises (Yu et al., 2022). However, one should not assume that Chinese enterprises have the same level of market orientation as those in the developed world. Indeed, most Chinese businesses are ill-equipped to compete in the global marketplace. For starters, they do not have the kind of cross-functional coordination necessary to be market-oriented. Chinese companies lack established worldwide distribution networks, after-sale services, and procedures for collecting first-hand feedback from overseas customers for marketing in other countries (Yu et al., 2022). As a result of China's lack of experience with a market economy, Chinese businesses are lagging in their marketing efforts.

Therefore, market orientation, characterised by an organisation's unwavering focus on understanding and fulfilling customer needs, is pivotal in moderating the relationship between entrepreneurial behaviours and vital organisational outcomes (Udriyah et al., 2019). Market-oriented entrepreneurial leaders stand out as catalysts for innovation culture. They

harness customer insights to drive an innovation culture finely attuned to market demand. This alignment ensures the organisation's innovative endeavours are inventive and closely aligned with customers' evolving needs and preferences (Abdul-Halim et al., 2019). When equipped with a market orientation, entrepreneurial leaders possess a unique ability to steer their innovation efforts toward satisfying market demand, ultimately enhancing the chances of success for innovative initiatives. Decentralisation structures, under the guidance of market-oriented leaders, take on a new dimension. Market-oriented organisations prioritise responsiveness to customer needs. Entrepreneurial leaders with a market orientation can adeptly adapt decentralisation structures to align with customer-focused strategies (Abdul-Halim et al., 2019). This customer-centric approach ensures that decentralised decision-making is directed toward satisfying customer requirements, fostering a more agile and customer-responsive organisational structure. It empowers teams at various levels to make decisions that prioritise customer satisfaction, enabling the organisation to respond swiftly to changing market dynamics (Green et al., 2005). In the field of knowledge sharing, market orientation becomes a potent driver. Market-oriented organisations emphasise the collection and utilisation of customer knowledge (Wang et al., 2021). Entrepreneurial leaders with a market orientation leverage this focus on customers to drive knowledge-sharing initiatives to improve customer satisfaction. These leaders actively encourage knowledge-sharing practices incorporating valuable customer insights, enriching the organisation's knowledge pool (Mehmood et al., 2022). This strategic incorporation of customer data equips the organisation to respond effectively to changing market dynamics, positioning it for competitive success.

In conclusion, market orientation is a significant moderator in the relationship between entrepreneurial leadership and critical organisational outcomes. Market-oriented

entrepreneurial leaders are pivotal in driving an innovation culture aligned with customer needs, adapting decentralisation structures for customer responsiveness, and fostering knowledge-sharing practices that incorporate invaluable customer insights. This positions organisations to thrive in competitive market environments by effectively meeting customer demands and capitalising on market opportunities.

2.9 Underpinning Theories

Within organizational studies, the examination of leadership's influence on innovation has garnered significant attention. Two prominent theoretical frameworks, the Upper Echelons Theory (UET) and the Resource-Based View (RBV), offer distinct perspectives on this relationship. UET posits that the characteristics and cognitive frames of top management, particularly entrepreneurial leaders, shape organizational outcomes (Hambrick and Mason, 1984). However, it provides a broad understanding without delving into the specific mechanisms through which leaders leverage resources to drive innovation. In complement, RBV provides a strategic lens, emphasizing the identification and utilization of unique, valuable, and non-substitutable resources within the organization (Collins, 2021). This introduction sets the stage for a comprehensive exploration of how UET and RBV contribute to understanding the nuanced dynamics between entrepreneurial leadership and innovation performance. The subsequent sections will explore each framework individually, elucidating their key concepts, theoretical foundations, and respective contributions to unravelling the complexities of leadership's role in fostering innovation.

2.9.1 Upper Echelons Theory

There is evidence to suggest that organisations mirror the personality of the dominant individuals who manage the organisation's affairs and that organisational pathologies can

reflect the personality of these dominant individuals. Organisations and business units' responses to their environment are influenced by dominant individuals' perceptions of the corporate environment. As a result, based on the upper echelons theory, organisations reflect the beliefs and perceptions of their top leaders (Hambrick and Mason, 1984).

According to the upper echelons theory, senior executives' values and cognitive bases are reflected in organisational outcomes, including strategy and effectiveness (Hambrick and Mason, 1984). Furthermore, top managers' perceptions of the corporate environment influence their decisions, affecting their performance. In addition, it states that their fields of vision (the areas in which top managers focus their attention) and their perceptions of the environment are limited by their cognitive foundation and values. Because of the limited capacity of humans to process information, the attentional process is constrained. As a result, leaders' decision to attend to specific scenarios of the environment is determined by their dispositions and personal cognitions. As a result of their unique personalities, senior executives have a unique ability to "see" the environment and use that information to make strategic decisions that directly influence the organisation's financial performance (Ali et al., 2022).

Upper Echelons Theory (UET) is a management theory that investigates the qualities that define leaders, the strategic choices that leaders make, and the connection that leaders have with the results of organisations. Hambrick and Mason (1984) were the ones who initially established the idea. The framework of Upper Echelons Theory reflects that the organisation's top decision-makers make decisions based on how they perceive the strategic circumstances in which they find themselves, and this interpretation is influenced by their experience, beliefs, and personality, i.e., "organisations become reflections of their top

executives". UET paradigm acknowledges that the socio-demographic characteristics of top decision-makers in companies may serve as reliable proxies for the cognitive values held by those individuals. Their initial factors consisted of things like age, functional tracks (background), job experiences, education, socioeconomic roots, financial situation (remuneration), and group features (heterogeneity/homogeneity). The complexity of organisations, the acts of the most senior leader(s) and the accumulated influence of interactions served as the foundation for their thinking. Abatecola and Cristofaro (2016) pointed out that research on the UET mainly concentrated on top leaders as the per se units of study. Latest studies continuously develop UET through different perspectives. Such as Bromiley and Rau's (2016)’s examination evaluated not only the CEOs and the Top Management Teams (TMTs) but also the CEO-TMT interface as factors influence organisational performance.

The Upper Echelons Theory has developed into a theory of strategic leadership since its initial uses. According to Ma et al. (2022), the theory focuses on the executives' overall organisational responsibility. This includes the executives' traits, what they do, how they do it, and most importantly, how they influence the business results. Research on strategic leadership focus on people (such as CEOs or division general managers), organisations (such as senior management teams), or other governance entities as its subjects (e.g., board of directors). According to Abatecola and Cristofaro (2016), upper echelons experts have emphasised extending this paradigm's dependability to various situations. These contexts include public administration, international firms, startups, and other industries or sectors. The managerial decision-making process appears to have been the primary focus of most studies done in the past.

Beal and Yasai-Ardekani (2000) found in their research on small manufacturing companies that leaders at the top of an organisation tend to make behavioural choices influenced by internal and external factors specific to their situation. Specifically, they found leaders likelier to make decisions aligned with the organisation's mission. According to their research, an organisation's performance or efficacy relies on the environment, the components of the context, and the pressures imposed on the structure. This was shown to be the case regardless of the activities taken by the leader. The cognitive frames of top managers are shaped by their education, experiences, values, and functional backgrounds, according to Kanchanabha and Badir (2021), who stated that the decision-making of top managers relies on these cognitive frames. The research conducted by Kanchanabha and Badir (2021) does lend credence to Hambrick and Mason's (1984) Upper Echelons Theory, which contends that "upper-level managers have a major effect on organisational outcomes as a direct result of the decisions they are authorised to make for the company".

Even if the demographic traits of executives are connected to their strategic decisions, psychological factors can better explain strategic choices than demographic ones do. Hambrick (2007) calls the psychological variables of executives a "black-box problem" (Lawrence, 1997) in the context of upper echelons theory. This is because insufficient studies investigate how executives' psychological variables explain strategic results. In addition, demographic variables do not necessarily answer the critical questions that must be asked to unpack the relationship between executives' characteristics and firm-level behaviours. This is because demographic variables influence firm-level variables through psychological variables (Seet et al., 2021). Therefore, Hambrick (2007) encouraged the academic community to investigate the connection between the psychological traits of executives and the results of their strategic decisions. Following the call by Hambrick (2007), a plethora of

research has been conducted to investigate the personality traits, leadership behaviours, and their influence on firm-level decisions of executives. According to several studies, CEOs are essential in formulating strategic choices, including mergers and acquisitions, product-related decisions, resource allocation, and company restructuring (Yi et al., 2022).

In short, according to UET, executives make decisions based on various factors, including personal preferences, biases, life experiences, values, and personalities. UET postulates the connection between characteristics of executives, such as personality and leadership behaviour variables, and strategic decisions and actions. According to UET, a company's performance reflects a CEO's decisions and actions (Martino et al., 2020, Gustavsson and Amador Regalado, 2020). Hogan and Kaiser (2005), for instance, put forth an all-encompassing framework for understanding the role that leadership plays in boosting an organisation's productivity:(a) the leader's personality influences leadership style (whom we determine how we lead), (b) the leadership style influences employee attitudes and team functioning and (c) the attitudes and team functioning influence organisational performance. Numerous studies have investigated the relationship between executives and organisations in terms of leadership to identify the importance of upper echelons (Kurzhals et al., 2020, Ahmad et al., 2020, Rasheed et al., 2021).

While Upper Echelons Theory (UET) has provided a crucial framework for understanding how CEO attributes shape organizational outcomes, much of the research remains fragmented. Studies have tended to focus on specific CEO characteristics—such as demographics, social networks, and psychological traits—without fully integrating how these traits collectively influence various corporate policies and strategic outcomes (Busenbark et al., 2016). Researchers such as Bromiley and Rau (2016) and Samimi et al.

(2022) have categorized these attributes into three main groups: demographics and experience, interactions with others, and underlying psychological factors. Based on all previous seminal works, Figure 2.2 illustrates the current attributes that applied to CEO when adopting UET theory. However, there remains a lack of systematic evaluation of how these characteristics interact with firm-level variables to drive organizational success.

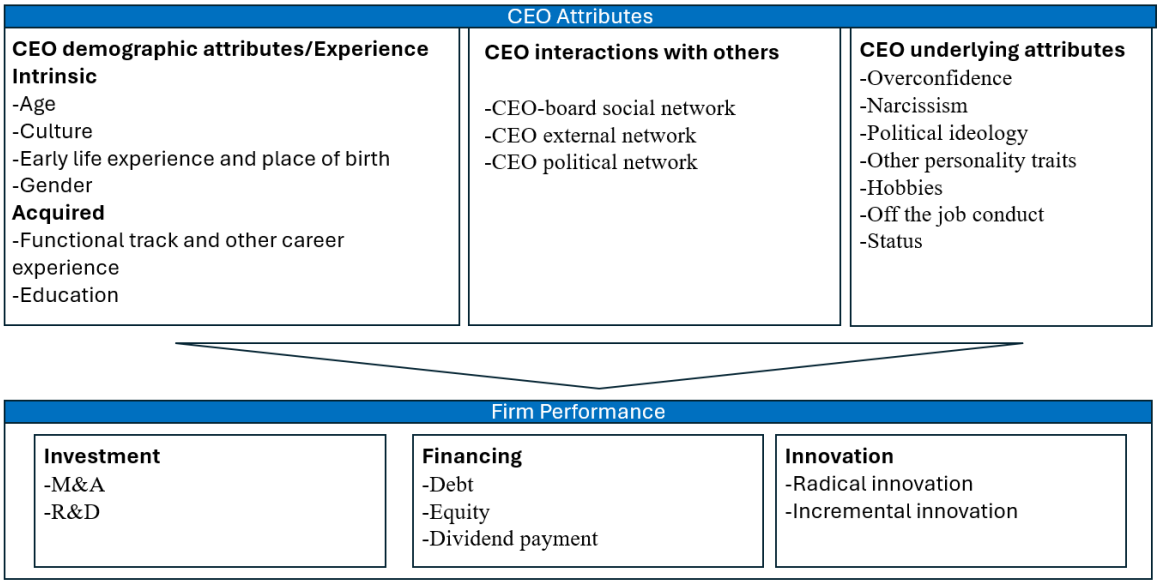


Figure 2.2: Upper Echelon Theory Model

Entrepreneurial leadership (EL), as an emerging leadership construct, addresses many of these gaps. EL emphasizes risk-taking, opportunity recognition, and innovation-focused behaviours, attributes that are particularly important in dynamic industries like Chinese Internet Enterprises (CIEs). The integration of EL into UET not only expands the traditional focus on CEO demographics but also provides a behavioral lens for understanding how CEO leadership styles drive innovation outcomes. By incorporating EL into the UET framework, this study acknowledges the complex relationship between leadership behaviours and strategic innovation decisions—something that is currently underexplored in existing UET literature.

As a result, UET provides theoretical solid support to explain the association among the variables investigated in this study. This study contends that innovation performance is one of the strategic outcomes that the CEO's entrepreneurial leadership behaviours can describe. Based on the UET theory, scholars have postulated the influence of leadership on organisational performance (Kurzhals et al., 2020, Ahmad et al., 2020, Rasheed et al., 2021). However, the relationship between entrepreneurial leadership, an emerging kind of leadership, and organisational performance has received little attention. The relationship between entrepreneurial leadership and organisational innovation performance has received scant attention. Therefore, this study investigates the influence of CEO's entrepreneurial leadership on organisational innovation performance using UET as a theoretical basis to extend previous academics' research on demographic variables and psychological qualities.

2.9.2 Resource-Based View (RBV)

The Resource-Based View (RBV) theory is a prominent framework in strategic management. It aims to explain how firms attain and uphold competitive advantage by effectively managing and leveraging their distinctive resources and capabilities (Barney et al., 2001). Unlike market-based theories that emphasise external market conditions and industry forces, the RBV directs attention to internal firm characteristics.

In its development during the 1980s and 1990s, scholars made substantial contributions to shaping and popularising the RBV (Barney, 1991, Wernerfelt, 1984, Madhani, 2010). The theory posits that a firm's resources can be categorised into tangible and intangible assets. Tangible resources encompass physical assets such as manufacturing facilities, equipment, and financial capital, while intangible resources encompass intellectual property, brand reputation, organisational culture, knowledge, and human capital (Collins,

2021). According to the RBV, a firm can achieve sustainable competitive advantage if it possesses resources that are rare, valuable, difficult to imitate, and non-substitutable. This notion implies that for resources to confer a competitive advantage, they must be scarce in the industry, enable the firm to exploit opportunities or mitigate threats, be challenging for competitors to replicate, and possess unique qualities that cannot be easily substituted (Gerhart and Feng, 2021). By consolidating previous RBV research, Figure 2.3 transferred the RBV into diagram to illustrate the VRIN resources RBV refers to.

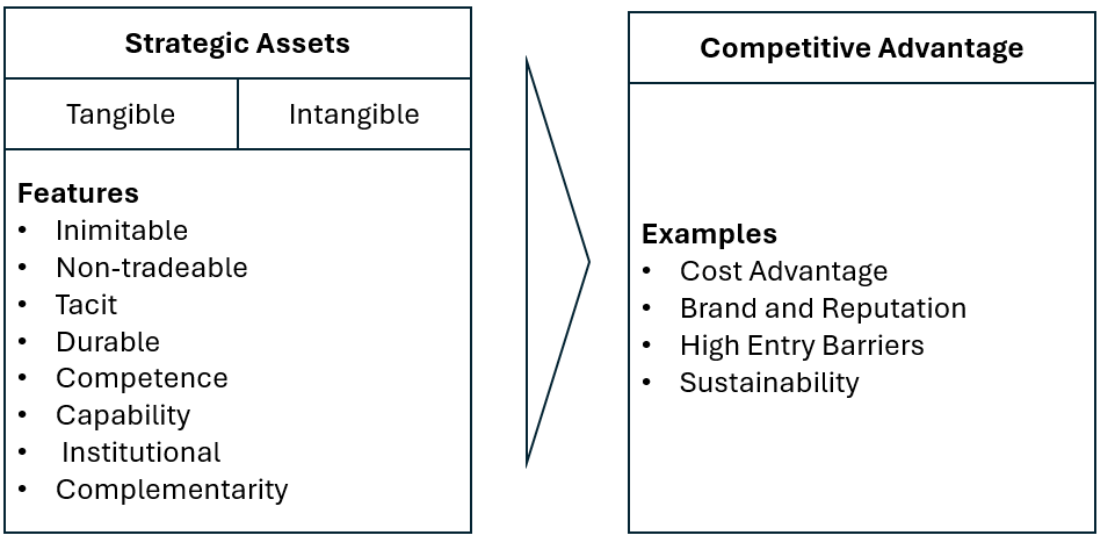


Figure 2.3: RBV Theory Model

Moreover, the RBV theory underscores the significance of a firm's dynamic capabilities in effectively managing resources and adapting to evolving market conditions (Beamish and Chakravarty, 2021). Dynamic capabilities refer to a firm's ability to integrate, reconfigure, and develop new resources and capabilities over time (Teece et al., 1997). This perspective recognises that resources may become obsolete or lose their competitive advantage due to technological changes, market demands, or competitive landscapes

(Bagheri et al., 2022a). Therefore, firms must continuously invest in developing and renewing their resource base to maintain a sustainable competitive position.

While the UET underscores the influence of top management characteristics on organizational performance, it primarily focuses on the traits and cognitive frames of leaders without delving into the process through which leaders utilize organizational resources to foster organizational performance (Oppong, 2014). To bridge this conceptual gap and explain the mechanisms underlying the relationship between leadership and innovation, RBV is employed as a supplementary framework. RBV offers a strategic perspective, emphasizing the identification and leveraging of valuable, rare, inimitable, and non-substitutable resources within the organization. RBV has shifted the focus from an individual-oriented approach to an internal resource perspective, underscoring the importance of a firm's unique resources and capabilities in attaining sustained competitive advantage (Collins, 2021). By adopting RBV, this study seeks to unravel how leadership practices contribute to the development and utilization of organizational resources that play a pivotal role in fostering innovation. The mediators in this study, including knowledge sharing, innovation culture, and decentralization structure, are considered as pathways through which organizational resources, influenced by leadership, contribute to the innovation process. Therefore, the integration of RBV complements UET by providing a more detailed understanding of the resource-driven mechanisms that link leadership to innovation outcomes. Entrepreneurial leadership encompasses the abilities and actions of leaders to utilize organization resources, and thus make the organization conducive to innovation within the organisation (Mehmood et al., 2021). RBV theory provides a lens to understand how entrepreneurial leadership promotes competitive advantage and influence innovation outcomes.

Besides, critics argue that RBV neglects the role of external factors and industry dynamics in shaping a firm's competitive advantage. Studies contend that a firm's resources may not possess inherent value and that their worth is contingent on their alignment with market opportunities and customer needs (Chen et al., 2021). Therefore, scholars highlight the challenge of identifying and evaluating firm resources and capabilities using the RBV framework only (Chen et al., 2021). That contributes the reason why this study also identified moderators to be examined in this study.

2.10 Research Gap Analysis

Based on the literature review mentioned earlier, there are gaps in the existing research on the relationship between leadership behaviours and firms' innovation performance in CIEs.

Firstly, the exploration of the CEO's entrepreneurial leadership and its influence on innovation is somewhat restricted within the confines of the UET. Existing research predominantly delves into executives' influence on organizations through the lens of demographic or psychological traits. However, there is a notable dearth of attention to the specific leadership dimensions of executives, particularly their influence on organizational performance. Despite recent studies investigating the broader influence of leadership on innovation, the perspective of the CEO's entrepreneurial leadership remains understudied in terms of the mechanisms through which this influence occurs. In response to this gap, this study introduces the RBV theory simultaneously with UET to address the limitations of the latter, notably its oversight of the leadership aspect of executives and its insufficient explanation of influencing mechanisms.

Secondly, there is a limited number of systematic examinations of external and internal factors. While Cortes and Herrmann (2021) explored various internal and external firm conditions impacting strategic leaders' influence on innovation, few studies have taken a comprehensive perspective on the mediators and moderators. This is especially crucial in the unique cultural context of China, where the influence of traditional Chinese philosophies significantly diverges from Western countries. There is a notable scarcity of research examining the organisational invisible factors through the 'resources' view under RBV to explain influencing mechanisms within the UET framework.

Thirdly, the tendency to treat innovation as a single variable rather than distinguishing between radical and incremental innovation is another gap in the literature. While lately some few studies have explored the influence of entrepreneurial leadership on innovation in western countries, few have delved into the nuanced aspects of radical and incremental innovation separately. This study seeks to address this gap by providing a comprehensive examination of both forms of innovation within the specific context of CIEs.

Fourthly, there is a paucity of research studies adopting a mixed-methods approach, combining both quantitative and qualitative methods. Most past studies have relied on surveys to examine the relationship between entrepreneurial leadership and innovation, neglecting the potential richness of qualitative insights. The exclusivity of quantitative methods can lead to a loss of information on the mechanism behind this relationship due to the complexity of understanding the CEO's entrepreneurial leadership on innovation.

Lastly, the influence of entrepreneurial leadership on innovation within the cultural context of China is inadequately explored. In the highly socialist Chinese culture, marked differences exist in companies' mindsets and the relationship between leaders and employees.

The potential embeddedness of traditional Chinese leadership philosophies in the ethos of Chinese leaders, rendering entrepreneurial leadership more pertinent and useful in China, requires comprehensive examination. Regrettably, few studies have undertaken this exploration from such a perspective.

In conclusion, the literature review highlights significant gaps in the understanding of the relationship between leadership behaviours and innovation performance in CIEs. The predominant focus on demographic or psychological traits within the UET neglects specific leadership dimensions, prompting the introduction of the RBV to comprehensively explore the mechanisms of entrepreneurial leadership. The lack of systematic examinations of internal and external moderators, particularly within China's unique cultural context, underscores the need for a comprehensive perspective on these factors, justifying the introduction of mediators and moderators. Further gaps in research include the limited exploration of radical and incremental innovation individually, the scarcity of mixed methods approaches, and insufficient examination of entrepreneurial leadership's influence within China's socialist cultural context. These identified gaps form the foundation for the current study, seeking to contribute a nuanced understanding of leadership and innovation dynamics in CIEs.

2.11 Hypothesis Development

To analyse the link between the independent and dependent variables, hypotheses have been created based on the examination of the relevant literature and the studies that took place in the preceding sections.

2.11.1 Entrepreneurial Leadership and Innovation Performance

Multiple researchers have concluded that effective leadership can increase employee motivation and provide a clear strategic direction for a company (Gupta, 2020, Ouakouak et al., 2020, Shafi et al., 2020). Entrepreneurial leaders, on the one hand, encourage their teams to think outside the box and create an environment where employees feel comfortable taking calculated risks in pursuit of innovative goals (Akbari et al., 2021a, Mehmood et al., 2021). Leadership that takes an entrepreneurial approach has been found to help employees think more creatively. On the other hand, entrepreneurial leaders frequently take the initiative to manage resources strategically, focusing on both opportunity and advantage seeking (Mehmood et al., 2021). These factors are highly predictive of both breakthroughs and incremental breakthroughs inside start-ups (Domínguez-Escrig et al., 2021, Hughes et al., 2021, Hoang et al., 2022). As a direct consequence of this, the following hypotheses are put forward.

H1a. The CEO's Entrepreneurial leadership has a positive effect on the radical innovation performance of CIEs.

H1b. The CEO's Entrepreneurial leadership has a positive effect on the incremental innovation performance of CIEs.

2.11.2 Innovation Culture

It is possible for a particular microclimate inside a company to either stifle or encourage the growth of an innovation, which will ultimately affect the company's success. With the advent of the innovation paradigm, the social and cultural determinants of innovation dynamics have been given even more weight (Skordoulis et al., 2020). It shifted the focus of innovation from its neoclassical technical and technological nature to the

complicated social reality that exists today. The concept of innovation and national innovation capability have developed into processes deeply rooted in an underlying institutional structure. These processes involve socio-cultural and political aspects, and they are how innovation becomes contextual, route-dependent, regionally particular, and institutionally formed (Zhang and Merchant, 2020). As a result, innovation becomes a two-stage process, first seen as a mentality that necessitates a specific microenvironment at the business level that supports creativity and innovation, then subject to macro-level constraints such as the broader socio-economic environment. This is because innovation is hampered by macro factors like the broader economic and social climate and micro factors like the individual's resources and motivations (Amini Sedeh et al., 2022).

Previous research has demonstrated that organisational culture substantially mediates the relationships between organisational characteristics and creativity. For instance, according to Castaneda and Cuellar (2020), a culture that encourages activities such as sharing ideas and experimentation and exploring and exploiting organisational knowledge resources among employees is conducive to bolstering or supporting various aspects of innovation. Notably, Ghasemzadeh et al. (2019) justified that by focusing on a standard system of values, beliefs, and objectives for encouraging the employees' experimentation and innovation, firms can develop an innovation culture to strengthen the effect of knowledge assets on innovation performance. This is crucial because it shows that firms can develop an innovation culture to improve performance. As a result, it assumes:

H2. Entrepreneurial leadership has a positive effect on the innovation culture of CIEs.

H3a. Innovation culture has a positive effect on the radical innovation performance of CIEs.

H3b. Innovation culture has a positive effect on the incremental innovation performance of CIEs.

H3c. Innovation culture positively mediates EL's effect on radical innovation.

H3d. Innovation culture positively mediates EL's effect on incremental innovation.

2.11.3 Decentralisation Structure

Based on the existing research, the organisational structure is a critical example of a management lever for innovation (Ghasemzadeh et al., 2019, Gentile-Lüdecke et al., 2020). The structure of decisions is crucial in determining how successful the innovation will be. As stated by Gentile-Lüdecke et al. (2020), decentralisation refers to who can make choices within an organisation and where those decisions are made. Maximum decentralisation indicates that decisions are made at the most localised level possible. In accordance with Jahagirdar and Bankar (2022), this is a direct consequence of partitioning hierarchical power inside organisations. The success of innovation may be significantly influenced by factors such as the quality of its decision-making and organisational design. Evidence in the relevant body of literature demonstrates that performance improves along with a loosening of control due to increased decentralisation. Under a highly centralised decision-making structure, subordinates' initiative and innovative ideas may be hindered (Ceptureanu and Ceptureanu, 2023).

Decentralisation can make it possible for businesses to respond rapidly to the needs of their clients, which can support the development of capabilities for exploitative innovation. This is accomplished by providing timely information, enabling businesses to respond rapidly using their existing capabilities (Iranmanesh et al., 2021). It provides organisational

units with the autonomy to track new opportunities, enables the efficient use of knowledge located at all organisational levels, and increases flexibility at all hierarchical levels, allowing for better use of emerging opportunities, thereby allowing for the improvement of existing products (Rehman et al., 2021a). Decentralisation is beneficial because it makes it easier to solve specific problems, encourages the creation of new goods, enhances the flow of information, and makes it simpler to recognise shifts in how technical advancements are made (Rehman et al., 2021a, Eklund, 2022, Bellavitis et al., 2023). As a result, decentralisation may make it easier to develop new goods by expanding the participation of all organisational units in the decision-making process. It encourages the exchange of innovative concepts, promoting investigation when such concepts deviate from the prevailing body of knowledge and promoting exploitation when those concepts improve upon the technology and goods already on the market. By giving different organisational units the freedom to make their own decisions on how resources should be distributed, decentralisation can simultaneously affect the development of exploitative and explorative skills (Foss et al., 2015). Since different organisational units can have different levels of commitment to pursuing innovation ambidexterity, it may improve innovation outcomes by increasing information awareness and encouraging experimentation and creativity (Rangus and Slavec, 2017). Considering these considerations, the following hypotheses are put forth:

H4. Entrepreneurial leadership has a positive effect on the decentralisation structure of CIEs.

H5a. Decentralisation structure has a positive effect on the radical innovation performance of CIEs.

H5b. Decentralisation structure has a positive effect on the incremental innovation performance of CIEs.

H5c. Decentralisation structure positively mediates EL's effect on radical innovation.

H5d. Decentralisation structure positively mediates EL's effect on incremental innovation.

2.11.4 Knowledge Sharing

In today's information-based economy, a company's competency and competitive advantage are defined mainly by its intellectual capital, which includes things like technology, managerial expertise, and knowledge resources, rather than by its physical resources, which include things like assets and capital (Obeidat et al., 2021, Jordão et al., 2020). Knowledge-sharing processes have been shown in a significant number of earlier studies to be able to promote the circulation and integration of knowledge within organisations, stimulate the production of new ideas and creations by workers, and actively support the development of an enterprise's capacity for innovation (Castaneda and Cuellar, 2020, Cao et al., 2022).

Based on the research, the ability to share one's knowledge is directly proportional to one's level of innovation. Following Saenz et al. (2012), the most important ways of growing and exerting a positive effect on innovation capabilities in Spanish and Colombian high-tech enterprises are the workers' knowledge-sharing mechanisms (such as communities of practice, coaching and mentoring, and employee functional rotation). Saenz et al. (2012) explained that the practice of sharing task-related skills and knowledge among employees might produce a large number of possibilities for the generation of new ideas and the

enhancement of the firm's capacity for innovative problem-solving. Naqshbandi and Jasimuddin (2018) highlighted the influence of the acquisition and transfer of information on enriching inflows of knowledge inside the organisation to boost companies' open innovation potential. Recent research conducted by Montani and Staglianò (2022) suggested that encouraging employees to share critical information and knowledge resources is an essential premise and requirement for improving creative idea generation and innovation skills.

Therefore, participating in activities that promote the exchange of knowledge helps employees develop their capacity for acquiring new information and recombining it with other types of knowledge, which in turn makes them more capable of developing new concepts into inventions. Considering this, the following hypothesis is proposed:

H6. Entrepreneurial leadership has a positive effect on the knowledge sharing of CIEs.

H7a. Knowledge sharing has a positive effect on the radical innovation performance of CIEs.

H7b. Knowledge sharing has a positive effect on the incremental innovation performance of CIEs.

H7c. Knowledge sharing positively mediate EL’s effect on radical innovation.

H7d. Knowledge sharing positively mediate EL’s effect on incremental innovation.

2.11.5 Technological Turbulence

Technological turbulence refers to the rate of technological development in a particular industry (Wardi et al., 2018). It is more difficult for businesses to operate in high-tech, turbulent environments to keep up with the rapid evolution of new goods and processes than for businesses in less turbulent environments. As a result, technology becomes a critical differentiator in the industry's rivalry (Dost et al., 2019). Competitive advantages can only be maintained by ongoing technological innovation. Any company that has access to cutting-edge technology can develop new items, improve existing products or processes, increase production efficiency, and lower the cost of organization (Huo et al., 2022). There is a greater risk of opportunism and misappropriation in a sector experiencing considerable technological instability, especially in partnerships (Mukherjee et al., 2013). It is becoming increasingly difficult for companies to work together and preserve their intellectual property in the turbulent environment. Companies are wary of sharing their secrets with their business partners if they do not want to risk losing control of their essential technology (Cai et al., 2021).

Furthermore, in a highly technologically turbulent world, it is more difficult for passionate CEOs to acquire new technologies from the technological turbulence of their partners to improve existing products and services in an industry characterised by highly volatile technologies. This is because of the increased risks associated with the loss of intellectual property. To produce new goods or services, CEOs with a high passion for their work aggressively seek assistance from their industry's partners, who can provide them with new technology (Begum et al., 2020). High technological turbulence makes it more challenging to share resources amongst companies, limiting the efficacy of CEOs passionate about exploring new ideas. Due to increased technical uncertainty, CEOs can rely less on

the trustworthiness and persuasion they communicate to their collaborators (Cai et al., 2021). As a result, CEOs are less likely to get cutting-edge technology from other companies. Thus, when there is a high level of technological change, CEOs acquire fewer technological resources through interfirm cooperation, which makes it more difficult to revise and improve existing goods, services, and procedures to create incremental innovation (Cai et al., 2021).

Therefore, it demands the leaders to look inside to seek for innovation within the organizations. Technological turbulence, characterised by rapid and unpredictable shifts in technology and industry norms, profoundly influences how entrepreneurial leadership influence organisations. In the context of fostering an innovation culture, entrepreneurial leaders shine in turbulent technological landscapes. Their visionary and risk-tolerant approach aligns seamlessly with the demands of rapid technological change, creating an environment that values innovation and encourages experimentation (Sawaean and Ali, 2020). Moreover, in such dynamic environments, entrepreneurial leaders adapt by advocating for decentralised decision-making structures, enhancing organisational flexibility and responsiveness (Darvishmotevali, 2019). They also play a pivotal role in fostering knowledge sharing, recognising its critical role in navigating technological turbulence (Shehzad et al., 2022). Consequently, technological turbulence amplifies the significance of entrepreneurial leadership in promoting innovation culture, adaptable decentralisation structures, and practical knowledge sharing, positioning organisations for success in rapidly changing technological landscapes. As a result, it comes up with this hypothesis:

H8. Technological turbulence positively moderates the relationship between entrepreneurial leadership and innovation culture.

H9. Technological turbulence positively moderates the relationship between entrepreneurial leadership and the decentralisation structure

H10. Technological turbulence positively moderates the relationship between entrepreneurial leadership and knowledge sharing.

2.11.6 Environmental Dynamism

The moderating influence of the environment on the link between leadership and organisational performance has been investigated in some of the most fascinating works on environmental dynamics. These studies looked at the relationship between leadership and organisational performance. Hou et al. (2019) discovered that environmental dynamism moderated the link between leadership and growth performance. They found that leadership was significantly more successful in surroundings that were dynamic as opposed to those that were stable. When the environment is mainly stable, and there are few changes in consumer choice, making dynamic leadership decisions is probably expensive and as a result, the link between a firm's leadership and its sustainable performance may grow weaker or even turn negative. Environmental dynamism lowers a company's competitive position and the potential value of its leadership actions in a volatile environment, with opportunities vanishing quickly and threats from competitors always present. This forces businesses to make frequent, complex changes to remain profitable (Tajeddini and Mueller, 2018). Empirical research studies have also demonstrated that the relationship between capabilities and firm performance is insignificant when the environment is stable, however, when the environment is dynamic, the relationship is positive and significant, indicating the moderating role that capabilities play (Ogaga et al., 2023).

Significant amplitude and unpredictability in environmental changes are primary indicators of environmental dynamism. The quick and dramatic changes in a dynamic environment are unpredictable (Carvalho et al., 2021). Organisational environments can be characterised by stress, anxiety, and danger in the face of changing external situations. Because of this, members of an organisation can influence the collective belief that action is needed to fix external problems and are more open to the leadership's actions. By successfully transforming crises into opportunities and conveying signals to organisational members that encourage them to challenge the status quo and pursue high-risk projects, entrepreneurial leaders can actively motivate organisational members to challenge the status quo and pursue high-risk projects" (Khan et al., 2023, Visser and Scheepers, 2022). Organisational members are encouraged by entrepreneurial leaders who establish commitment and define gravity to see the changing environment as an opportunity to bring joy and optimism for the future (Ishak et al., 2021). Entrepreneurial leaders can use this dynamic environment to create a sense of urgency among their employees that innovation is essential to coping with external changes. On the other hand, stable environments establish an organisational framework defined by assurance, predictability, and regular routines (Paudel, 2019). Because there is less uncertainty, employees are less likely to pressure their leaders and use well-established information, skills, and processes in response.

Environmental dynamism, characterised by the degree of instability and unpredictability in the external environment, plays a pivotal moderating role in shaping how entrepreneurial leadership influences critical organisational outcomes (Oppong, 2014, Uno et al., 2021). Therefore, this study assumes that in dynamic environments, entrepreneurial leaders stand out as catalysts for fostering innovation culture, adapting decentralisation structures, and promoting knowledge sharing (Deng et al., 2021, Adana et al., 2023,

Taghizadeh et al., 2020). Their visionary and proactive approach aligns seamlessly with the ever-changing nature of dynamic markets. When confronted with environmental dynamism, entrepreneurial leaders empower organisations to stay ahead of rapidly shifting market dynamics by encouraging risk-taking, pioneering innovative practices, and fostering a culture that actively embraces experimentation. Additionally, they adapt decentralisation structure and knowledge sharing to enhance organisational responsiveness and agility, enabling swift responses to emerging opportunities or threats.

In this study, the focus of environmental dynamism on market dynamism arises from its disruptive nature, necessitating flexible organizational responses. This choice aligns with Surty and Bcheepers' (2020) approach, which measurement adopted in this study's investigation on environmental dynamism. This method allows this research to effectively measure environmental dynamism and explore its positive moderation of the relationship between entrepreneurial leadership practices and innovation performance. As a result, it comes up with the following theories:

H11. Environmental dynamism positively moderates the relationship between entrepreneurial leadership and innovation culture.

H12. Environmental dynamism positively moderates the relationship between entrepreneurial leadership and decentralization structure

H13. Environmental dynamism positively moderates the relationship between entrepreneurial leadership and knowledge sharing.

2.11.7 Market Orientation

As a foundation for producing outstanding customer value, market orientation (MO) is a business strategy that emphasises the responsiveness and customer-centricity of a company. Companies that have a high market orientation not only meet or surpass the expectations of their present customers in target markets, but they also anticipate and satisfy the wants of their changing customers (Deshpandé and Farley, 1998, Randhawa et al., 2021). A significant portion of the abundant market orientation literature has concentrated on the company's capacity to generate value by recognising and satisfying the requirements of its customers (Morgan and Anokhin, 2020). Corporate managers are strongly urged to maintain a close relationship with the customer, to recognise and comprehend the requirements of customers, and to prioritise the interests of customers. In most cases, there is shown to be a favourable moderation effect between market orientation and the performance of the business (Cacciolatti and Lee, 2016, Hernández-Linares et al., 2021). Companies emphasising their target market's demands become competitive and inventive. This enables market-oriented businesses to differentiate themselves from their rivals in the market and more effectively meet the requirements of their customers. As a result, market orientation has a constructive effect on the performance of the business.

Market orientation, characterised by a relentless focus on understanding and satisfying customer needs, is a critical moderator in shaping the influence of entrepreneurial leadership within organisations. In fostering an innovation culture, market-oriented entrepreneurial leaders excel at aligning their innovation efforts with evolving customer demands, driving an organisational culture that thrives on customer-centric innovation (Abdul-Halim et al., 2019). Additionally, they adapt decentralisation structures to prioritise customer responsiveness, empowering teams to make decisions that prioritise customer

satisfaction. This customer-centric approach enhances the organisation's agility and ability to swiftly respond to changing market dynamics (Abdul-Halim et al., 2019). Furthermore, market-oriented leaders leverage customer insights to drive knowledge-sharing practices incorporating valuable customer data, enriching the organisation's knowledge pool and positioning it to navigate competitive market environments (Mehmood et al., 2022). Based on these arguments, it offers the following hypothesis:

H14. Market Orientation positively moderates the relationship between entrepreneurial leadership and innovation culture.

H15. Market Orientation positively moderates the relationship between entrepreneurial leadership and the decentralisation structure

H16. Market Orientation positively moderates the relationship between entrepreneurial leadership and knowledge sharing.

2.12 Conceptual Framework

In this study, the upper echelons theory (UET) and resource-based view (RBV) are utilised in the investigation to produce an appropriate conceptual. By UET, a company's performance reflects the choices and actions of the CEO (Hambrick et al., 2015). In addition, Dhir et al. (2023) provided a conceptual framework of how leadership in companies affects the organisation's success. People who have conducted meta-analytic studies, such as Recendes et al. (2023), believe that leadership style is determined by personal traits, and Bachrach et al. (2022) believe that mindsets and group behaviour are influenced by the leadership style of the leader. Besides, RBV asserts that a firm's competitive advantage derives from its unique and valuable resources, which, when leveraged effectively, drive

innovation. Entrepreneurial leaders play a pivotal role by strategically deploying their skills to utilize organizational resources from perspectives such as culture, structure and knowledge sharing to promote organization (Bachrach et al., 2022). By aligning their leadership style with the firm's resource endowments, entrepreneurial leaders stimulate the generation, assimilation, and transformation of resources into innovative products, processes, and strategies, amplifying the organisation's capacity for innovation.

Furthermore, leadership greatly influences innovation, but it is not a stand-alone activity for leaders. To begin, scholars have noted the importance of the context and its variable aspects in stimulating and managing innovation by leaders (Cortes and Herrmann, 2021, Ye et al., 2022). According to Hughes et al. (2018)'s recent research, the extent of the association between leadership and innovation is enormously varied. It varies from near zero to huge and substantially negative to positive in certain circumstances. The variety could indicate that the fundamental nature of creativity and innovation changes across organisational sectors and contexts. Moreover, the relationship between leadership and innovation is not always straightforward. Previous studies have shown that different leadership styles can have varying degrees of correlation with innovation, depending on the organizational context and the specific features of the organization (Rosing, Frese, & Bausch, 2011). For example, in a collectivist culture, transformational leadership may have a stronger positive effect on innovation compared to individualist cultures (Hofstede, 2012). This suggests that leadership practices need to be tailored to the cultural and organizational context to effectively drive innovation. As a final point, scholars claim that the organisational environment can play a role in determining the variation. Figure 2.4 depicts the conceptual framework of this study.

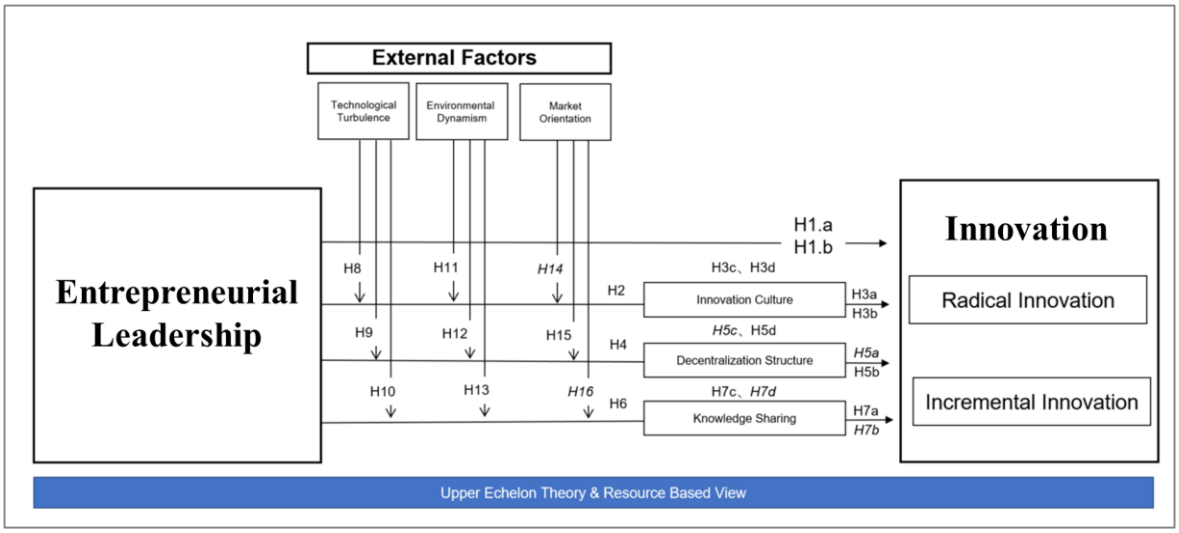


Figure 2.4: Conceptual Framework of Study

2.13 Summary of Chapter

This chapter has explored the existing literature within the research domain, delving into hypotheses that explain the evolution of entrepreneurial leadership by adopting both the UET and RBV. The comprehensive analysis has not only shed light on the multifaceted nature of entrepreneurial leadership but has also identified internal and external factors as potential mediators or moderators, essential in catalysing innovation performance within organizations. The review on past seminal works is evidenced by the wealth of insights it has provided, offering a nuanced understanding of the subject matter and pinpointing critical gaps in current knowledge.

The review's significance extends beyond a mere survey of existing literature, and it serves as the cornerstone for developing the conceptual framework that will guide the subsequent research endeavours. The identified gaps, ranging from the limited exploration of specific leadership dimensions within UET to the need for a more comprehensive examination of mediators within RBV and go beyond to include moderators to extent scope of RBV, provide a roadmap for the research's focal points. This conceptual foundation is

crucial in aligning the study with the current state of knowledge and, more importantly, in charting a course toward contributing novel insights to the field.

As the research transition to the next chapter, the focus will shift towards the methodological aspects of this study. A thorough discussion of the research methodologies employed will provide clarity on how the identified gaps and research questions will be addressed, ensuring a thorough exploration on the mechanisms between entrepreneurial leadership's influences and innovation performance in CIEs.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter sets the stage for the methodological framework guiding the investigation into the relationship between entrepreneurial leadership and innovation within CIEs. It begins with an exploration of the research paradigm, explaining the diverse range of research design approaches under consideration.

Embracing a mixed-methods approach acknowledges the complementary nature of quantitative and qualitative methodologies. The chapter unveils the primary data sources, commencing with a quantitative survey questionnaire method and supplemented by in-depth interviews. These methods collectively offer comprehensive insights into the research phenomenon, fostering a nuanced understanding of the subject matter.

At the core of the methodology lies the assurance of rigor and validity in data collection and analysis. Rigorous assessment of reliability and validity ensures the robustness of chosen constructs and measures. Preliminary pilot studies for both quantitative surveys and qualitative interviews identify and rectify potential disruptions within the survey instruments, laying a solid foundation for subsequent data collection efforts. Ethical considerations are paramount, with field studies facilitating direct interactions with respondents to evaluate the effectiveness of interview questions and uphold ethical standards.

The preliminary assessments lay the basis for data collection and analysis, safeguarding the credibility and integrity of the research process. Subsequent sections delve deeper into the chosen research design, data collection methods, and analytical techniques,

closely aligned with the overarching objectives of the study. The methodology facilitates a comprehensive exploration of entrepreneurial leadership and innovation within CIEs, employing contemporary approaches to address the complexities of the research domain.

3.2 Research Paradigm

The process of doing research in many different sorts of procedures often begins with determining the study paradigms. It is then followed by research tactics, strategies, and data gathering (Zikmund et al., 2013). "Positivism" and "phenomenological or interpretivism" are the two main categories of research paradigms, as defined by Collis and Hussey (2014). Positivism tends to argue that rules not only lay the groundwork for explanation but also foretell the emergence of events, making it possible to exert some control over them. This will result in establishing a causal relationship between variables or objects through the performance of causal laws and connecting these laws to a deductive or integrated theory. The positivist research framework still needs to be more heavily utilised despite other contemporary scientific research alternatives being available. This indicates that the positivist research framework's effects are substantially founded on previously done research.

Collin and Hussey (1997) emphasised that the positivistic paradigm typically results in the production of quantitative data through the utilisation samples. As a result, it has raised questions about the level of specificity and precision that the hypothesis testing and data possess. Denzin and Lincoln (2011) claimed that even though reality can be investigated, grasped, and understood, it has never been fully recognised. Similarly, it should use various techniques to obtain as much of the actuality as humanly feasible. Because of that, the phenomenological paradigm will also be applied to serve as the method for constructing this study. Historically, several researchers have referred to this approach as the interpretivism

methodology. According to Zikmund et al. (2010), interpretivism is a method of foresight based on the probability that a strategy is required to perceive the distinctions between natural science disciplines and social activity. Given the need for objectivity, Perry (1998) argued that interpretive research paradigms should be given preference and provided examples of their use in case study research.

Henceforth, conducting this study within the positivistic and phenomenological paradigms (interpretivism) is deemed appropriate. Perry's (1998) perspective is significant here, highlighting researchers' challenge in distinguishing between induction and deduction. Perry (1998) argues that a purely inductive approach might limit the utilisation of existing theories, while a purely deductive one may hinder the development of contemporary and practical theories. Therefore, the methodology chosen for this study aligns with a post-positivist research paradigm, encompassing both quantitative and qualitative research approaches, to fulfil the research objectives stemming from the overarching goal. The upcoming section will investigate the details of the research methodologies employed in this study.

3.3 Research Approach

Both deductive theory testing (using the positivist paradigm) and inductive theory building (using the phenomenological or interpretive paradigm) have been recognised by numerous researchers as two of the most critical methodologies in the process of theory formation (Perry, 1998). The quantitative method, which involves using survey questionnaires (adopted instruments with high validity and reliability from previous studies), and the qualitative method, which involves interviewing the target respondents, are the primary research approaches used in this study. Zikmund et al. (2013) have emphasised that

mixed research techniques acknowledge the intrinsic value of quantitative and qualitative methods, striving to harness the strengths to comprehensively understand the problem under investigation. Recognising the diversity in research approaches, it becomes crucial to appreciate the vast array of methods being considered and utilised to address the research questions.

Indeed, Campbell and Fiske (1959) pioneered the adoption of a mixed methodological strategy to investigate personality-related psychological attributes. Acknowledging that quantitative and qualitative research approaches have distinct strengths and weaknesses rooted in their respective methodologies is essential. To ensure the validity and reliability of research findings, it becomes imperative for researchers to employ various tactics and methodologies that, when combined, complement each other and are aptly aligned with the research questions at hand (Creswell et al., 2003). Similarly, Kelle (2006) has emphasised the advantage of leveraging the strengths of one approach to compensate for the weaknesses of the other in quantitative and qualitative research methods. Kelle (2006) supports the mixed-method approach and advocates for a complementary design, particularly in the context of entrepreneurial leadership research. This approach helps capture a more comprehensive and nuanced understanding of the complex phenomenon under investigation.

Denzin and Lincoln (2000), on the other hand, refer to this approach as a triangulation study, which they define as "the combination of techniques in the survey of the same phenomena," and they vouch for it as the most effective course of action for the researchers to take. Aspects of topics vital to comprehending and evaluating an individual's point of view are the focus of research conducted using quantitative and qualitative methodologies. It

assumes, based on the strength, that the form of triangulation research where both quantitative and qualitative data sources are utilised, and these had been adopted in this study. The investigation result obtained through the use of this method connected to quantitative research approach can be cross-checked against the findings obtained through the use of a method related to qualitative technique (Creswell et al., 2003). The unique triangulation method allows quantitative findings to collaborate with qualitative ones and vice versa (Hammersley, 2008).

Triangulation was determined to be the most influential research technique after considering the high demand features of this study and the potential pitfalls associated with each method. As a result, the triangulation techniques are utilised in this study by adhering to the triangulation design method created by Green et al. (2007). Triangulation has the potential to assist in revealing the anomalous or off-quadrant dimension of an occurrence. Therefore, using this model would provide the chance for this study to compare the results, validate, confirm, or even corroborate neither quantitative nor qualitative data to reach a conclusion that is both credible and well-supported (Creswell et al., 2003).

This study adopts a sequential mixed-method approach, wherein quantitative and qualitative methodologies are implemented in distinct stages. Over a period of five months, data were first collected through the distribution of questionnaires to selected CIEs staff, followed by semi-structured probing interviews with a subsample of employees. The quantitative data collected through self-reports provided a statistical foundation, which was subsequently enriched by qualitative insights from the interviews. This design captures a diverse spectrum of perspectives, representing both statistically measured and qualitatively expressed findings. The sequential mixed-method approach aligns with the

recommendations of Creswell et al. (2003) and Zikmund et al. (2010), who affirm that integrating quantitative and qualitative phases provides a more comprehensive evidential foundation than relying solely on one method. In the next section, a detailed examination of the research design will provide a deeper understanding of the methodological approach adopted in this study.

3.4 Research Design

A research design is a fundamental strategy that directs the phases of a research endeavour that involve the collection of data and analysis of that data (Zikmund et al., 2010). It provides a framework that specifies the nature of the data to be collected, where it can be found, and how it should be obtained. This study began by conducting a literature search, as in Chapter two, to examine the theoretical background regarding the main subject of study and evaluate previous related works. This investigation aims to determine how the correlation exists between these factors and firms' innovation performance under the umbrella of UET and RBV theories.

The first stage of this study comprised the preliminary design as well as the pre-tests. With well-constructed instruments adopted in this study, it is common practice in behavioural research to employ pre-test designs, as Geursen (1998) stressed the need to pre-test any decent instruments before use. The research needs assurance that pre-tested study respondents will comprehend what the question implies before it can rely on a question. The results of the preliminary test are used to guide the modifications to the questionnaire. After conducting the pre-test, collecting responses from the respondents, and considering any advice provided by a subject matter expert, an adjusted questionnaire instruments are modified, as recommended by Geursen (1998).

Then, after conducting pre-tests on the questionnaire, the research was disseminated, and internet surveys were used to facilitate participants' access to it. The procedure of distributing questionnaires (a quantitative survey) and conducting fieldwork consisting of in-depth interviews (a qualitative survey) was carried out. After that, the data from the questionnaire was collated. This study utilised the statistical software SmartPLS 4.0 and the qualitative analysis program MaxQDA, which are commonly applied in social science research.

In the last part of this research project, as in the following two chapters, the findings from the analysis and observation were presented alongside their interpretations. Following that, the research revised the framework at the end of the study and provided further directions on the field.

3.5 Research Population

Creswell (2007) asserts that choosing the most qualified respondents to conduct research carefully is critical, underscoring the researcher's need to emphasise competent applicants who can contribute the most trustworthy information to the study. Since this research aims to find out the influence of EL on both radical and incremental innovation from the most successful CIEs, the sample consists of employees working in the top most successful CIEs including Alibaba, Tencent, Baidu, JD Group, Meituan, Tiktok and Bytedance, according to the China Internet Enterprise Strength Index published by China Internet Association, which is an official institution and association of internet companies hold by the Chinese government. As a result, the sampling consists of individuals who are senior managers above and can have the opportunity to observe their CEOs working in CIEs with weekly basis with an amount of 593. At first, employees were asked to provide their

demographic details and rate their perceptions of their CEO's entrepreneurial leadership and corporate innovation, which many researchers adopted the same method to measure organisational innovation performance (Bagheri et al., 2022b). The research hypothesis of this work was then put to the test through the collection of data from the respondents. A random selection technique was adopted for employees working in the companies and thus a sample of individuals from each participating company was chosen randomly to participate in the study. The sample size for this study was determined using the 10 times rule in PLS-SEM, which suggests that the sample size should be at least 10 times the largest number of structural paths directed at a single construct in the model (Hair et al., 2011). With 11 structural paths, a minimum sample size of 110 was required, and the final sample of 593 exceeds this threshold, ensuring robustness. Additionally, G*Power 3.1 (Faul et al., 2009) was used to verify that the sample size met the criteria for adequate statistical power, based on the number of predictors, effect size, and power. For the pilot study, a sample of 109 was used, in line with recommendations from Connelly (2008), who suggested that a pilot sample should be approximately 10% of the main study's sample. Other literature (Isaac & Michael, 1995; Hill, 1998; Julious, 2005; van Belle, 2002) also supports using 10 to 30 participants in pilot studies.

In addition to this, Onwuegbuzie et al. (2010) brought to light a novel meta-framework that consists of methods that were developed specifically for qualitative data, and interviewing is one of the methods that are recommended by this approach as a method for gathering data in the form of qualitative research. The participants were chosen based on their opportunities to work with or observe directly on CEOs. Although the exact number of participant interviews depends on the number at which information saturation is attained, Guest et al. (2006) demonstrated that in most qualitative studies, data saturation occurs

within 12 interviews. By meeting the criteria, the interviews of this study were conducted with 14 respondents who are ranked highly (above senior managers) and have good observation of their CEOs (note: the detailed information of the key informants are kept confidential due to the personal request of all the informants).

3.6 Research Instrument

This section will discuss the research instruments utilized in this study, encompassing the ones applied in both quantitative and qualitative methodologies. The selection and implementation of these instruments are crucial components of the research design, contributing to the robustness and depth of the investigation. The subsequent subsections will provide detailed insights into the quantitative instrument and qualitative instrument, offering a comprehensive understanding of the tools employed to gather data in both methods of the research.

3.6.1 Quantitative Survey

The quantitative instrument employed for this study included a questionnaire-type survey, with scale format created by Likert (2017), ranging from 1, the least and to 5, the most extensive. A questionnaire based on instruments with acceptable reliability and validity was constructed for this investigation. The study translated the survey from English to Chinese using the Brislin (1980) back-translation technique to guarantee semantic equivalence. The translation process will aid respondents' comprehension of the questionnaire for Chinese only respondents. The to-be-applied instruments all were from the well-designed instruments. The instruments chosen for each variable are:

Entrepreneurial leadership: The forty-item scale ($C\alpha = 0.90$) developed by Bagheri and Harrison (2020) was used to assess entrepreneurial leadership. The seven

identified dimensions, and 40 identified items for entrepreneurial leadership have good composite reliability with Cα >0.7. These items include "My CEO Seeks continuous performance improvement."

Innovation: Ten items from Sheng and Chien (2016) research were utilised to quantify two types of innovation. Radical innovation is defined by five items, one of which is "we commercialise wholly new goods and services". Incremental innovation is measured by five items, one of which is "we routinely improve the offering of current products and services". The reliability test reveals that radical innovation (Cα=0.95) and incremental innovation (Cα=0.94) have high values.

Technological turbulence: This study adopted Wilden and Gudergan (2015)'s technological turbulence measurement. A four-item scale was used to measure technological turbulence, one of which is "The technology in our industry is changing rapidly". The instrument's Cronbach's alpha is 0.78, indicating that the observed variables are reliable.

Environmental dynamism: The scale by Surty and Scheepers (2020) was used to measure environmental dynamism. The scale of four items had an alpha of 0.86 in their study. Examples of items is "environmental changes in our local market are intense.".

Market orientation: The five-item scale created by Dutta et al. (2016), with Cronbach's alpha of 0.83, was adopted to measure market orientation. Sample items included "My organisation strongly emphasise customer satisfaction" and "My organisation strongly emphasises understanding customer needs."

Innovation Culture: The study adopted three items from Martín-de Castro et al. (2013)'s scale, which involves the encouragement of experimentation, the development of

new ideas and innovation and a standard system of values, beliefs and objectives concerning innovation, with Cronbach's alpha of 0.88. A sample item is “My company encourages experimentation and innovation to improve work effectiveness.”

Decentralisation Structure: The study adopted the four-item scale developed by Li et al. (2018) to measure organisational decentralisation with Cronbach's alpha of 0.83. Sample items included “Firm leaders use subordinates’ suggestions to make decisions that affect them”.

Knowledge Sharing: The four-item scale created by Kim and Lee (2013) with Cronbach's alpha of 0.867 was adopted to measure knowledge sharing. Sample items included "When I learn something new, I will tell my colleagues." and "I will share what I know with my colleagues."

3.6.2 Qualitative Interview

Moustakas (1994) outlined four considerations for researchers when identifying and developing qualitative data sources. These steps include a well-defined research question that aligns with the research purpose, a review of the extant literature, criteria for selecting participants, and an interview script that includes interview questions to guide a consistent interview protocol. One source for this qualitative study was in-person, face-to-face, semi-structured interviews. The semi-structured interview is an appropriate technique to gain insight into a deeper understanding of the participants' perspectives and the meaning of experiences explicitly described by participants (Grossoehme, 2014). The researcher used semi-structured interviews to follow up on topics that arose during the interviews and that relevant to the study (Grossoehme, 2014). At the start of each interview, participants will be reminded that their participation is voluntary and that they can withdraw from the study at

any time. The interview protocol also includes a reminder of the purpose of the study and an assurance that the content of the interview will remain confidential.

In this study, the interview questions asked senior managers to talk about their CEO's behaviours regarding entrepreneurial leadership behaviours. Open-ended questions allow participants to describe their perspectives and experiences about the phenomenon (Patton, 2014). The semi-structured interviews included initial descriptive questions with probing questions each to prompt participants to describe their perspectives of their CEO's entrepreneurial leadership behaviours, innovation performance and factors influencing innovation. The interview and subsequent probing questions helped participants provide a comprehensive description that best demonstrated their experiences (Merriam and Tisdell, 2015).

3.7 Operation of Research

Online questionnaire distribution and telephone interviews were used in this research project to gather data. The study used the "Tencent Questionnaire," as the quantitative survey data collection tool, which is one of the newest and most pleasant online surveys hosts widely utilised in China when collecting data.

Mixed research methods were utilised since they can provide broader insights than a single statistical method (Clark, 2019). The study assesses the validity and reliability of the measurement instruments for each research concept and evaluates the relationship hypothesis between the variables. The survey was conducted using a multi-item approach, and a 5-point Likert scale was used to measure all items, with "1" representing "strongly disagree" and "5" representing "strongly agree." All items used were taken and adopted from previous studies. Specific approaches include factor loadings, uni-dimensionality,

convergence validity (Cronbach's α, CR, and AVE) and discriminate validity. Software utilised includes Smart-PLS 4.0 for the quantitative method and MaxQDA for the qualitative method.

As Kemmis and Mc Taggart (2008) pointed out, quantitative techniques that rely on systematic procedures to search for actions and events that can be measured or quantified are the most often used. They are an effective method for gathering information from a large population of participants since the survey questions can be standardised, and respondents can remain anonymous (Kemmis and Mc Taggart, 2008). As a result of the fact that quantitative analysis makes it possible to investigate quantifiable connection variables, this methodology was deemed suitable for the present investigation (Mohajan, 2020).

It is important to note that the quantitative research approach demands significant data. The features of the populations from which the samples are taken would be presented more precisely if the samples were larger (VanVoorhis and Morgan, 2007). Given that a factor analysis approach is being utilised in this investigation, the recommended minimum number of instances for a statistically valid factor analysis is 300 (VanVoorhis and Morgan, 2007). Nevertheless, in order for any study to generate reliability on the findings, Comrey and Lee (2013) emphasised the following reference sample sizes: 50 as very poor, 100 as bad, 200 as fair, 300 as good, 500 as very good.

Besides, as a supplementary method of questionnaire survey, in-depth interviews are suggested to be conducted because they offer a clear picture of respondents' viewpoints and allow participants to explain and expound on their responses (Comrey and Lee, 2013). Semi-structured interviews were utilised after ethical approval to elicit participants' assessments of their CEO's leadership style and how they managed and promoted innovation in this study.

An interview procedure, which includes open-ended questions, will direct the interviews. Selected senior executives from survey respondents intending to participate were interviewed in depth. The interviews were conducted remotely through phone or video conference due to the face-to-face constraint of COVID-19 in the data collection period at a time that is convenient for them and lasts between 30 and 45 minutes. Besides, only interviews with participant permission will be recorded. The interviews were stored as a combination of text and audio files. The interview data was subsequently transcribed before the importation to MaxQDA. In conducting this study, informed consent was obtained from all participants prior to data collection. Participants were fully informed about the study's purpose, their voluntary participation, and their right to withdraw at any time. To ensure confidentiality and anonymity, personal identifiers were excluded, and responses were coded for privacy. Additionally, to enhance validity, experts including academicians, HR professionals, and industry practitioners reviewed the constructs and instruments before finalizing them for data collection.

3.7.1 Quantitative Operation

The survey was distributed by email through the Tencent Questionnaire online platform, and phone calls and WeChat (social platform) were utilised to tell respondents about the survey and solicit their cooperation in participating. This study's participants were recruited using the researchers' networking skills, as defined by Comrey and Lee (2013). The researcher's network was used, and invitations were disseminated through personal contacts built with personnel working in CIEs, such as through the networks of Baidu, Alibaba, Tencent, Meituan, Bytedance, TikTok and JD.

The data for this study was collected through a self-reporting survey approach and supplemented by the selection of personal interviews. This study was based on the methodology of self-reporting developed by Kumar et al. (1993). These methodologies served as a reference for the study's data collection approaches. This study recognises and accounts for data collection through self-administered surveys, frequently characterised by poor response rates (Zikmund et al., 2010). Therefore, various approaches were used to solve the problem of low answers. This research took a more personal approach to boost the percentage of participants who respond to the survey. Besides, this study also followed the approaches employed by Solymossy (1998), such as writing good instruction before the survey questions, restricting the survey's length, and maximising the chances of receiving a response. For example, the length of the survey was kept to a minimum. The goal of the instruction was to provide participants with an explanation of the objectives of the study and to reassure them that any information they supplied would be kept confidential and would only be used for research.

Finally, a total of 820 online survey questionnaire links embedded in emails were distributed to the target population from June 2023 to October 2023. A total of 33 survey questionnaire forms were personally sent to them by the researcher through the WeChat QR code. The validity rules have been set through the survey platform to ensure all respondents need to answer all questions before submission, and validity will be examined automatically by the platform through rationality of answering time. Among those sent through the above methods, finally 593 completed and valid survey answers were collected (about 69.5% response rate).

3.7.2 Qualitative Operation

Most of the earlier studies on research designs related to innovation have focused primarily on the quantitative research paradigm. This paradigm originates in positivism, considered the first wave of methodological thinking (Onwuegbuzie et al., 2010). The purpose of qualitative data collecting in the context of this research is to supplement the primary research approach (quantitative). Therefore, this study gives a further and more profound understanding of the problem surrounding the link between entrepreneurial leadership and innovation of organisations by collecting, evaluating, and interpreting quantitative and qualitative data in a single study that analyse the same underlying phenomena (DiCicco‐Bloom and Crabtree, 2006).

Numerous researchers in the field of qualitative research in the modern era have categorised qualitative interviews as unstructured, semi-structured, or structured (Onwuegbuzie et al., 2009a). Qualitative researchers rely heavily on in-depth interviews to get data. The framework of interviews, the amount of leeway given to interviewees, and how they answer questions can all vary (DiCicco-Bloom & Crabtree, 2006). Derived from previous literature with various specialised study inquiry formats, this has aided the development of pre-determined questions that guide the researcher when conducting interviews. Numerous qualitative researchers advocate using technology to portray the insights gained and enhance accuracy. A total of 14 senior managers who often have access to the meetings or directly observe CEO leadership behaviours were selected by voluntary and interviewed. After that, the research data was transcribed with the help of the qualitative software, MaxQDA, which was used for the processing of qualitative data as well as test analysis.

3.8 Quantitative Analysis Method

Within this segment, this study delves into the detailed approach for quantitative research. This entails justifying the utilisation of questionnaires during the survey, carrying out pilot testing exercises, elucidating the analytical techniques and general analytical procedures employed, addressing concerns about reliability and validity, and acknowledging the limitations associated with the quantitative method used in this research endeavour.

3.8.1 Pilot Test

Addressing the significance of pilot testing, Onwuegbuzie et al. (2009a) emphasise its essential role before deploying research instruments. Ensuring smooth data processing and pre-emptively identifying potential complications when respondents engage with questionnaires are central aims. Notably, before the pilot test, a consultation phase involved soliciting input from managers and scholars to refine the proposed survey instrument's clarity and precision.

Following this preparation, a pilot test was conducted in early May 2023 involving senior managers from internet companies in China. One hundred and fifty survey questionnaires, accompanied by a thoughtfully crafted cover letter, were distributed via Tencent Survey. Over nearly two weeks, 109 respondents provided their insights. The feedback collected from these managers was meticulously documented and led to minor adjustments in the survey instrument, enhancing its overall quality.

Table 3.1 depicts the demographic profile of the respondents who participated in the pre-test.

Table 3.1: Demographic Profile of Pre-test Respondents

Demographic Variables	Frequency (N = 109)	Percentage (%)
Gender		
Male	52	48%
Female	57	52%
Age		
18−24 years	2	2%
25−34 years	15	14%
35−44 years	72	65%
45−54 years	18	17%
54+ years	2	2%
Education		
High School and below	2	2%
College Degree	79	72%
Graduate Degree	28	26%

3.8.2 Results of Pilot Test

According to Onwuegbuzie et al. (2009a), the purpose of the pilot test is to "identify the shortcomings in design and implementation." In a similar vein, Pearson et al. (2020) have emphasised the significance of conducting a pilot trial at the beginning of a complete research in order to evaluate the survey questions and interview questions. Because of that, conducting pilot test in this study is also important due the reasons that to find out the shortcomings in the design. Furthermore, it is also suggested by many researchers that a well-designed pilot test is crucial for researchers to continue afterward test. Before beginning

the data-gathering process, any questionnaire's weaknesses should be addressed and corrected. Collins (2007) proposes that before carrying out the actual execution of the questionnaire, it should first be pre-tested by the actual target group once the subject matter expert has reviewed it. The purpose of this exercise is to solicit respondents' opinions concerning the suggested instruments' ease of use and accuracy. After that, the individuals who participated in the survey should be questioned about their perspectives on the entire questionnaire. The input gathered from these respondents will then be considered, and in response, some minor tweaks to the primary survey instruments will be made. As a result, the final version of the questionnaire will be far more accessible to comprehend and more straightforward.

Pilot testing is akin to refining measures during the initial stages of research. Its fundamental purpose is to establish the reliability and effectiveness of capturing and measuring underlying factors or constructs. Nunnally (1978) suggests that the optimal threshold for any exploratory or preliminary study should be 0.7 or higher. This applies to both exploratory and preliminary research. On the other hand, Peterson (1994)’s study on alpha coefficients procedure concluded that the mean coefficient alpha should be somewhere around 0.77 and that 75% of the observed alpha coefficients should be 0.70 or higher. A significant number of researchers, such as Hair et al. (1998), have explored the idea that the objective of the research needs to be taken into consideration in order for the coefficient alpha to be approved if it is to be set at 0.5. Hair (2017) hypothesises that exploratory research can proceed with lower scores being acceptable since the score should only be used as an indicator, not as a measure of dependability. For a more comprehensive understanding, Table 3.2 presents Cronbach's alpha coefficient values for all variables during the pre-testing stage of this research, all of which have alpha more than 0.7. These cumulative coefficient

alpha values consistently underscore robust reliability and acceptability (Fornell and Larcker, 1981, Lam, 2012). The pilot test results were used to adjust a full final version of the questionnaire.

Table 3.2: Cronbach's alpha of Constructs

Model	Constructs	Number of Items	Cronbach's alpha
Entrepreneurial Leadership	Framing Challenge	5	0.851
	Absorbing Uncertainty	4	0.913
	Underwriting	5	0.842
	Building Commitment	6	0.867
	Defining Gravity	5	0.895
	Opportunity Identification and Exploitation	10	0.868
	Orientation towards Learning	5	0.802
Innovation	Radical Innovation	5	0.809
	Incremental Innovation	5	0.774
External Moderators	Technology Turbulence	4	0.762
	Environmental Dynamism	4	0.738
	Market Orientation	5	0.883
Internal Mediators	Innovative Culture	3	0.817
	Decentralized Structure	4	0.72
	Knowledge Sharing	4	0.786

3.8.3 Statistical Procedures for Data Analysis

The analysis was executed using the SmartPLS 4.0 statistical software (Ringle et al., 2015). PLS-SEM has rapidly gained popularity since its inception in 2005 due to its user-friendly interface and advanced reporting capabilities (Hair et al., 2013). Chin (1998) recognised the potency of PLS-SEM as a statistical tool, attributing its appeal to the minimal constraints it places on measurement scales and sample size. PLS presents an alluring avenue within SEM, enabling researchers to concurrently explore relationships among latent variables (Hair et al., 2013).

In contrast to alternative statistical methods, PLS offers the advantage of evading inadmissible solutions and addressing limited factor indeterminacy (Chin, 1998). A particularly noteworthy trait of PLS-SEM is its capacity to explain the variance among constructs and forecast their interrelationships (Hair et al., 2013). PLS-SEM is a logical approach for scrutinising the connections between variables and evaluating the statistical attributes concerning the factors to be studied in this research.

Adopting a two-level approach is beneficial as it employs a dual-step evaluative process to assess the theoretical model simultaneously. In the initial stage, the outer measurement model investigates the links between variables and their corresponding measures, thereby evaluating the reflective measurement model. To explore the correlations among pertinent variables, the software scrutinised the reliability and validity of the measurement model. Following a thorough data quality evaluation, the researcher should employ SmartPLS to assess the reflective measurement model, ensuring unidimensionality, reliability, variance, and effect size (Awang et al., 2015) . Unidimensionality safeguards that the measurement items of latent variables predominantly pertain to themselves without venturing into associations with others. Reliability gauges the extent to which indicators consistently measure the intended variables, while variance quantifies the degree of variation between the IV and DV. Lastly, effect size gauges the strength of relationships between variables. Furthermore, a SmartPLS bootstrapping algorithm will be employed to determine the statistical significance of the structural model. Refer to **Table 3.3** for a comprehensive depiction of the assessments conducted within the measurement model.

Table 3.3: Measurement Model Assessment—Reliability and Validity

Model Parameter Assessment	Explanation	SmartPLS PLS Algorithm	Value
Dimensionality	Measures the spatial dimension to ensure constructs have better relationships with their construct (Urbach and Ahlemann, 2010).	Confirmatory factor analysis (CFA)	Factor loadings < 0.4 and > 0.7
Construct reliability	Like Cronbach's alpha, construct reliability measures internal consistency and reliability in measurement scale items (Urbach and Ahlemann, 2010).	Cronbach's alpha	> 0.7
		Composite reliability	> 0.7
Convergent validity	Assesses the extent to which measures relate to other measures (Hair et al., 2017).	AVE	Variable: AVE > squared correlation; indicator correlations lower than with other variables
Discriminant validity	Measures the correlation between constructs and indicators to determine the extent to which they are genuinely distinct (Hair et al., 2017).	Fornell-Larcker criterion	Individual identity
		Heterotrait-monotrait (HTMT)	Threshold values lower than 0.85—conceptually distinct construct
		Cross-loadings	Single significant loading

3.8.4 Checking the Assumptions

The reason for using PLS-SEM as a research tool in this study is due to its ability to thoroughly examine hypotheses and provide detailed answers to complex research questions. PLS-SEM is considered a silver bullet approach in academic discussions, as it can effectively analyse causal models (Hair et al., 2017). The study begins by assessing reliability through

an evaluation of Cronbach's alpha, composite indicator reliability, and the Average Variance Extracted (AVE), which are all crucial in determining convergent validity. Once the measurement model is validated, the analysis moves on to the structural model, which explores the complex relationships between variables and highlights the path coefficients linking latent variable constructs (Ringle et al., 2015). This strategic exploration helps uncover the underlying dynamics that govern the research framework.

The next step in the process involves evaluating the structural model using validated measures. This evaluation aims to uncover the predictive power of the relationships between constructs. The process involves a careful examination of potential collinearity issues, as well as an assessment of the importance and significance of the relationships in the structural model. This includes exploring the coefficients of determination, represented by R-square values and the f-square effect size, which indicate the model's predictive relevance. (Hair et al., 2017; Urbach and Ahlemann, 2010).

To make the structural model more tangible, SmartPLS provides estimates of path coefficients and t statistics. This allows to examine the relationships between the variables that make up the structural model. The study uses a bootstrap algorithm to determine statistical significance at the 5% level, as this is the ultimate goal of the analysis (Hair et al., 2011). Table 3.4 provides a clear summary of this exploration and offers a comprehensive description of the structural model analysis.

Table 3.4: Incisive Description of the Multifaceted Structural Model Analysis

Validity Assessment Criterion	Explanation	SmartPLS	Value
Coefficient of determination	Represents the proportion of variance in a DV explained by an IV (Urbach and Ahlemann, 2010) and is used to evaluate the structural model (Hair et al., 2017).	PLS algorithm	Substantial: 0.670 Moderate: 0.333 Weak: 0.190
P value	Estimating the relationships between the constructs in the path model indicates the amount of variance in the DV explained by the IV (Hair et al., 2017).	Bootstrap algorithm	< 0.05

3.8.5 Limitation of Quantitative Method

It is important to note that while the data analysis method used in this research has undergone a rigorous statistical examination, no research approach can claim to be perfect or capture every aspect of human and organizational behaviours. Despite this, previous studies have mostly focused on a quantitative paradigm when exploring the domain of entrepreneurial leadership and related areas. However, this study needs to go beyond the quantitative measures and examine how they can provide a comprehensive view of the complex relationship between entrepreneurial leadership, innovation activities, and the internal and external factors that shape an organization.

This is especially true when attempting to gain a comprehensive understanding of a particular area of study. Therefore, it is necessary to make a supplement towards qualitative paradigms. This shift is based on the recognition that it needs to explore deeper narratives that often exceed the limitations of numerical data alone.

3.9 Qualitative Analysis Method

The preceding studies in the fields of EL and innovation predominantly emphasize the quantitative aspect. In the upcoming section, the focus will shift towards addressing and detailing the research methodologies employed to gather and analyse qualitative data within the scope of this research. The primary aim is to augment the overarching quantitative study by offering supplementary insights through a qualitative perspective. This intentional integration of qualitative methodologies is designed to enrich the depth and breadth of understanding, providing a more comprehensive view of the study.

3.9.1 Pilot Test

Given the crucial role of interviews in providing researchers with insights into participants' perspectives on the studied phenomenon (Patton, 2014), it becomes imperative to conduct a thorough field test prior to the formal data collection. The purpose of this preliminary test is twofold: first, to identify any potential challenges or issues that participants might encounter during the actual study, and second, to validate the reliability and validity of the interview questions.

In this context, the interview script was employed to conduct field tests with five individuals who met the predefined criteria for the target sample. These participants exhibited a comparable familiarity with the phenomenon under investigation. Notably, the individuals involved in the field test were subsequently excluded from the final sample population selected for the comprehensive study. This deliberate exclusion ensures that the insights gained during the field test do not influence the outcomes of the main research.

The iterative nature of the field test allowed for valuable feedback on the interview questions. Adjustments were made to the questions based on the insights and responses

garnered during the field-testing phase. This iterative process is fundamental in refining the interview instrument, enhancing its clarity, relevance, and effectiveness. The modifications made post-field testing contribute to the overall robustness of the qualitative data collection process, ultimately bolstering the reliability and validity of the study's findings.

3.9.2 Semi-Structured Interview

Expanding upon the foundation laid by prior scholarly works, a series of pre-established questions were crafted and revised based on pilot study results. These questions were indispensable tools, aiding and guiding the interviewer throughout the interviews. Each interview spanned 30 to 45 minutes, providing ample time for comprehensive exploration. Each interview was recorded, if permitted, capturing every nuance and insight. Subsequently, these audio recordings underwent transcription, transcribed into Microsoft Word. This transformation ensured a faithful representation of the spoken word.

In pursuit of an elevated level of analysis and comprehension, the transcribed data underwent a subsequent conversion. It was converted into the Rich Text Format (RTF), serving as the conduit for its transition to MAXQDA 2020—a robust qualitative software renowned for its prowess in processing qualitative data and facilitating text analysis, which served as the crucible within which the qualitative data underwent analysis and interpretation, aligning with the finest practices of qualitative research methodologies.

3.9.3 Procedure for Qualitative Data Analysis

The qualitative content analysis originates from a human tradition rather than a positivistic one. This study has produced research questions that can be evaluated using content analysis. These questions were developed by drawing on previous relevant research and current relevant theories. This thesis gives a clear description of the research question

and purpose. As a result, it makes it easier for the researcher to determine whether the analysis focuses on those areas of content that are pertinent to the inquiry. These questions are an attempt to learn about and investigate the innovation performance of CIEs, the entrepreneurial leadership behaviours of their CEOs, and the internal and external organisational factors that may have affected their innovation performance. To accomplish this goal, the content analysis method of conceptual analysis was utilised. This method establishes the existence of works, concepts, or themes in the text and the frequency with which they appear (Prasad, 2017). The purpose of this qualitative study's aim and analytical technique was used to supplement the results of the primary study.

An important question to consider when conducting qualitative research is the design. The qualitative research design provides a framework for data collection and analysis. The interview approach was ideal for exploring and understanding how the entrepreneurial leadership behaviours of CEOs in CIEs contribute to innovation where they work for three reasons. First, interviews are well-suited for studying a phenomenon where the boundaries between the phenomenon and context are unclear, and multiple data sources are used. Second, interviews allow for deep descriptions and alternative explanations of a phenomenon and facilitate the extension of a theory. Third, interviews help researchers investigate an individual or group's events, processes, or activities within a bounded system (Ridder, 2017).

In content analysis, the unit of analysis are the individual words, phrases, sentences, paragraphs, the complete text, specific individuals, or certain subjects, as Prasad (2008) suggested. Even analytical units can be grouped with text if their meaning remains consistent when the whole text is considered (Krippendorff, 2004). While other methods exist to

display the data, this study will follow Turner (2010) and Entebang (2010) by focusing on the domain, themes, and sub-themes of the collected information. White and Marsh (2006) suggested that developing the coding scheme is vital, and the qualitative analysis technique allows the data to be broken and manipulated. In other words, creating the coding scheme is crucial (Prasad, 2008). Because of this, all transcribed conversations will be coded by running through the various data procedures, and not a single transcribed line will be omitted from the process. The categories or levels of a coding scheme are exhaustive, meaning that they reflect all the constructions and they are also mutually exclusive (White and Marsh, 2006), and they will be constructed into a scenario, opinion, process, activity, strategy, relationship, or even a social structure code. In a similar vein, Webb (1999) underlined the fact that the coding of qualitative data can be done in a bottom-up process that involves three stages, namely open, axial, and selective coding. Open coding is a method that requires the data to be categorised according to the concepts and ideas that are contained within the texts. Based on this categorisation, the applicable codes will be recognised and utilised. On the other hand, in axial coding, categories and sub-classes were constructed to determine if the categories found in open coding correspond to each other.

Therefore, this study classified the data using codes and sub-codes according to the themes or notions they represented rather than in a format that relied on numbers or frequency. In the end, an investigation of groups of concepts or themes will be conducted via the lens of data analysis. Content analysis only looks at what is there rather than what is absent or kept secret (Prasad, 2008). An acceptable explanation of the circumstance will be emphasised after being derived from descriptive evidence. Further coding of the text according to systematic and objective standards will allow inferences to be drawn from the data and be used to corroborate the conclusion of the primary subject. This will be possible

since objective guidelines will be followed in coding the text from the data. Furthermore, according to Carmines and Zeller (1979), discovering the similarity with which two or more persons have categorised the same material would strengthen the reliability of the findings in content analysis. To accomplish this goal, the study used the MaxQDA software, which guaranteed that the data were tagged and classified appropriately and methodically throughout the process. Even though this approach has been emphasised, there is a possibility that a reliability issue may still exist, particularly with coding mistakes, and this problem can only be minimised and not entirely eradicated from the process (Prasad, 2008).

3.9.4 Reliability and Validity of Using Content Analysis for Qualitative Data

Serafini and Reid (2023) highlight that the content analysis technique is renowned for its effectiveness and trustworthiness. To establish reliability within content analysis, the focus encompassed three fundamental elements: stability, reproducibility, and precision, as studied by Neuendorf (2017). The utilisation of MaxQDA played a pivotal role in ensuring the systematic and accurate coding and categorisation of data throughout the process. However, despite these efforts, concerns persist regarding reliability issues, as underscored by Gottschalk (1995).

Gottschalk and Bechtel (1995) emphasised that while coding errors can be minimised, their complete elimination remains elusive. Simultaneously, the validity of data analysis through content analysis revolves around the alignment between categories and conclusions and the applicability of results to a broader theoretical framework. This was realised by employing multiple classifiers to arrive at a consensus-based definition of categories, following the approach detailed by Busch et al. (2005). This approach ensures the derivation of meaningful insights from the data.

The quest for achieving generalizability of conclusions is intrinsically tied to the careful delineation of conceptual categories and their reliability, as delineated in the work of Busch et al. (2005). In this vein, the present thesis meticulously initiated well-defined categories that accurately gauge the ideas or items under scrutiny. For instance, to mitigate the risk of superficial face validity in content analysis, greater emphasis was placed on discerning latent content or underlying meaning rather than confining the analysis to a mere surface-level interpretation of literal content, as Bouvier and Rasmussen (2022) highlighted.

3.9.5 Limitations of Qualitative Method

Content analysis is not without its flaws. What it does not tell us, however, are the causal relationships that exist between the variables that are being studied. Even though it is one of the most often utilised research approaches in the social sciences, it complements the findings obtained by more conventional quantitative research. The limited use and growth of content analysis can be attributed, rather than to the approach's fundamental limits, to a lack of familiarity with the method and its long-standing isolation from mainstream social research. Similarly, although the frequencies can be studied statistically in this thesis, the ultimate result of the qualitative data would be analysed using conceptual analysis rather than relational analysis. This is because conceptual analysis better captures the meaning of the data (Entebang, 2010).

3.10 Summary of Chapter

In short, this chapter presents a comprehensive overview of the methodology employed in the thesis, elucidating the strategies and approaches adopted. The incorporation of quantitative survey questionnaires with qualitative interviews, as advocated by Zikmund et al. (2010), emerges as a dynamic and fruitful approach. This method not only integrates

data collection through archival research and relevant documentation searches but also strategically blends elements from both positivist and phenomenological paradigms. The aim is to effectively employ these methodologies for the detailed description and comprehension of the specific knowledge domains contributing to the success of CIEs. This integrated approach facilitates a more holistic and nuanced exploration of the factors influencing the achievements of CIEs.

Furthermore, it is strongly advised that researchers undertake a pilot test to evaluate the validity of their research instrument. As delineated in this chapter, the results of the pilot study affirm the validity of the survey instrument, meeting the requisite criteria. This assurance ensures that the survey and interview questions accurately measure their intended constructs and can consistently yield valuable and reliable data. The subsequent Chapter Four will explore the output from the analysis of the data collected through the methodologies interpreted in this chapter.

CHAPTER 4

FINDINGS OF THE STUDY

4.1 Introduction

The previous chapter has discussed the research methodologies adopted in this study. Chapter Four will present the empirical findings that were derived from analysing data obtained from 593 valid survey questionnaires. Following introduction, overview of the demographic findings will be presented, followed by detailed examinations on all hypothesis proposed in Chapter Two.

The assessment centres on the model encapsulating entrepreneurial leadership elements, with specific emphasis on hypotheses H1, H2, H4, and H6. The Partial Least Squares (PLS) method is employed to analyse the relationships between variables: Innovation (Inn), Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS) as dependent variables, with Entrepreneurial Leadership (EL) serving as the independent variable.

Subsequently, a hierarchical moderated analysis is conducted to comprehend the influence of intended predictors and moderators on the dependent variables posited in this research (H8-H16). Mediation analysis is applied to ascertain how mediators influence the dependent variables as hypothesized (H3, H5, H7).

Furthermore, qualitative research findings will be expounded upon after presentation of quantitative findings. These findings serve as a complement to the quantitative analysis, furnishing a nuanced understanding of the examined phenomena. The qualitative insights

contribute depth and context to the statistical results, fostering a comprehensive and well-rounded interpretation of the study's outcomes.

4.2 Findings of Quantitative Research

This part provides the primary hypotheses' empirical findings from the quantitative study. The analysis procedure begins with an overview of the participant profiles

4.2.1 Demographic Profile of Respondents

To avoid missing values when running the PLS analysis of the survey responses, the data were verified by the Survey Platform of Tencent Questionnaire automatically and thoroughly by checking and preventing the submission of invalid missing values.

Hence, the analysis of this thesis was based on 593 usable questionnaires. **Table 4.1** below describes the demographic profile of the respondents in this study.

Table 4.1: Demographic Profile of Respondents (N=593)

Demographic Variables		Frequency (N = 593)	Percentage (%)
Gender			
	Male	308	52%
	Female	285	48%
Age			
	18−24 years	18	3%
	25−34 years	59	10%
	35−44 years	279	47%
	45−54 years	190	32%
	54+ years	47	8%
Level			
	Manager and below (Management Trainees, direct report to CEOs)	42	7%
	Senior Manager	433	73%
	VP	71	12%
	SVP and above	47	8%
Years in this Company			

Table 4.1 continued

	Below three years	18	3%
	3-5 years	47	8%
	5-10 years	368	62%
	Above ten years	160	27%
Education			
	High School and below	18	3%
	College Degree	291	49%
	Graduate Degree	285	48%

4.2.2 Reliability and Validity Analysis

Before using the constructs to analyse the strength of the relationships in the model, the measures must be assessed to confirm internal consistency, reliability and validity. The measurement model was examined to accomplish this objective. Measurement model analysis is a prerequisite for analysing the structural model and testing the hypotheses. The measurement model assesses the relationships between the latent variable constructs and their measures, or indicators, to assess the validity and reliability of the constructs. Factor loadings were examined to measure internal consistency by validating the scaled items in the constructs and for overall scale reliability. In this study, reliability was measured by Cronbach's alpha, composite reliability, and AVE. Validity was measured using the Farnell-Larcker criterion to determine the degree of shared variance between the variables, and the HTMT ratio was used to measure the correlations of the constructs. Measurement involved examining the factor loadings between the constructs and indicators. The data were loaded into SmartPLS 4.0 to run statistical analyses. After running a PLS or bootstrap algorithm, values shown in green provided an instant indication that the data were good, or red to indicate that the data were not good. The instant indication of positive or negative results helped to determine reliability issues for consistency and validity for accuracy.

First, the reliability of the measures in this study was assessed using Cronbach's alpha, composite reliability, and average variance extracted, as outlined in Table 4.2. According to Pallant (2020), a Cronbach's alpha value above 0.6 is considered indicative of high reliability and an acceptable index (Nunnally and Bernstein, 1994). However, it is important to note that Cronbach's alpha is influenced by the number of items in the scale and tends to underestimate internal consistency reliability (Nunnally and Bernstein, 1994). To address this limitation, composite reliability was also examined.

The Cronbach's alphas for all measures ranged from 0.69 to 0.95, surpassing the acceptable threshold of .60. Similarly, composite reliability values ranged from 0.82 to 0.96, meeting the recommended level of 0.60 suggested by Fornell and Larcker (1981). Average variance extracted (AVE) gauges the proportion of variance in the indicators explained by latent constructs and serves as a more cautious estimate of measurement model validity (Fornell and Larcker, 1981). By examination, all constructs met the 0.5 threshold recommended by Fornell and Larcker (1981) for AVE.

Table 4.2: Measured Variable Factor Loading and Scale Reliability

Constructs	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
EL	0.951	0.957	0.516
DS	0.72	0.842	0.641
IC	0.724	0.835	0.629
KS	0.687	0.824	0.612
ED	0.86	0.891	0.675
MO	0.902	0.928	0.72
TT	0.763	0.847	0.581
II	0.761	0.839	0.511
RI	0.767	0.844	0.525

To address the potential issue of common method bias, this study employed the correlation matrix procedure, following the method suggested by Bagozzi et al. (1991). According to their guidance, standard method bias is indicated when there is a notably high correlation ($r > 0.9$) among the primary constructs. This research examined the correlations among the latent variables within the correlation matrix. It was observed that no correlations exceeded the threshold of 0.9 between constructs, as illustrated in **Table 4.3**. This finding serves as additional evidence supporting the absence of common method bias in this study. Discriminant validity was also examined using the Fornell-Larcker criterion to determine whether the constructs had their own identity. As reflected in **Table 4.3**, the correlation of the constructs indicated that all constructs were distinct.

Table 4.3: Correlations Among the Latent Variables

	DS	**ED**	**EL**	**IC**	**II**	**KS**	**MO**	**RI**	**TT**
DS	**0.801**								
ED	0.009	**0.822**							
EL	0.680	-0.011	**0.718**						
IC	-0.021	0.059	-0.077	**0.793**					
II	0.681	-0.040	0.704	-0.002	**0.715**				
KS	0.027	0.034	-0.027	0.562	0.040	**0.782**			
MO	0.593	0.016	0.605	-0.034	0.634	-0.023	**0.849**		
RI	0.544	-0.015	0.709	-0.004	0.711	0.004	0.550	**0.725**	
TT	0.052	0.010	0.006	0.562	0.052	0.575	0.004	0.063	**0.762**

Note: Bold numbers-square root of AVEs

To assess discriminant validity further, HTMT was used to assess the actual correlations between the constructs. The technical approach of assessing HTMT estimates the actual correlations between constructs as if they were perfectly measured. The HTMT threshold level is debatable, but the recommended value should be below 0.9 (Franke and Sarstedt, 2019). When HTMT values are lower than the conservative threshold value of 0.85, the constructs in the path model are conceptually more distinct (Hair Jr et al., 2017). The

HTMT values in this study were below the lower 0.90 threshold value, mostly below 0.85, as reflected in **Table 4.4**. In conclusion, the reliability and validity of the constructs indicated that they can be used to estimate parameters in the structural model.

Table 4.4: Discriminant Validity (Heterotrait-Monotrait Ratio)

Construct	DS	ED	EL	IC	II	KS	MO	RI
ED	0.104							
EL	0.806	0.064						
IC	0.055	0.066	0.216					
II	0.821	0.051	0.815	0.051				
KS	0.057	0.055	0.198	0.692	0.069			
MO	0.727	0.042	0.852	0.044	0.753	0.055		
RI	0.723	0.057	0.858	0.057	0.823	0.054	0.667	
TT	0.076	0.047	0.174	0.667	0.091	0.746	0.038	0.079

4.2.3 Structural Model Analysis

The inner structural model represents the conceptual element of the theoretical model (Hair et al., 2017). The objective is to report the findings of the multivariate statistical analysis used to analyse the structural relationships in the research model for this study. Data from the accompanying statistical results are presented in tables. Where appropriate and necessary to enhance visual influence and readability in communicating findings, diagrams are provided to enhance an understanding of the data.

After reliability and validity test, the structural model was then assessed for predictive capabilities and statistical significance. Using SmartPLS, a PLS-SEM provided reliability and validity statistics for the latent constructs and indicators. In evaluating the inner model, PLS-SEM provides path analysis statistics to evaluate relationships between the latent variables to assess the structural model. The path coefficients provide the

coefficients between the relationships that allow us to predict relationships between the latent constructs. The hypotheses were tested to determine whether the data were statistically significant.

This evaluation was accomplished by running a bootstrap algorithm in SmartPLS to estimate the statistical significance of the path coefficients and p values in the inner structural model. The complexity level for the bootstrap setting was complete bootstrapping for the confidence interval method. The bootstrap setting had parallel processing with 5,000 samples at a 0.05 significance level. Assessment of the structural model determines its ability to predict the variance in the DV (Radical Innovation and Incremental Innovation). The significance of the path coefficients was evaluated to identify the direct and indirect effect of variables in the model.

Multivariate statistical analysis simultaneously measures multiple variables in applying statistical methods (Hair et al., 2017). This study evaluated the mediators' influence through the relationship between entrepreneurial leadership (IV) and radical innovation/incremental innovation (DV). Three moderating effects were also evaluated for their influence on the model: Technological turbulence (ModV) for its influence on the relationship between entrepreneurial leadership (IV) and KS/DS/IC, environmental dynamism (ModV) for its influence on the relationship between entrepreneurial leadership (IV) and KS/DS/IC, and market orientation (ModV) for its influence on the relationship between entrepreneurial leadership (IV) and KS/DS/IC. This evaluation was accomplished by running a bootstrap algorithm in SmartPLS to estimate the statistical significance of the path coefficients and p values in the inner structural model. The bootstrap algorithm was run to obtain a statistical significance level for each hypothesized relationship.

4.2.4 Hypothesis Testing

A bootstrap algorithm was run in SmartPLS 4.0 to determine whether the p values and path coefficients between the variables are statistically significant. Indirect effects indicate whether intervening variables transmit effects from one variable to another. The path coefficients of the specific indirect effects between entrepreneurial leadership, mediators (IC/DS/KS), and radical innovation/incremental innovation determined whether there was direct or indirect mediation between entrepreneurial leadership (IV) and radical innovation/incremental innovation (DV). A comparison of the total (unmediated) effect of the relationship between entrepreneurial leadership (IV) and radical innovation/incremental innovation (DV) to the mediated path coefficient determined whether there is a mediated effect. Further details can refer to the **Figure 4.1:** Framework of PLS-SEM Analysis.

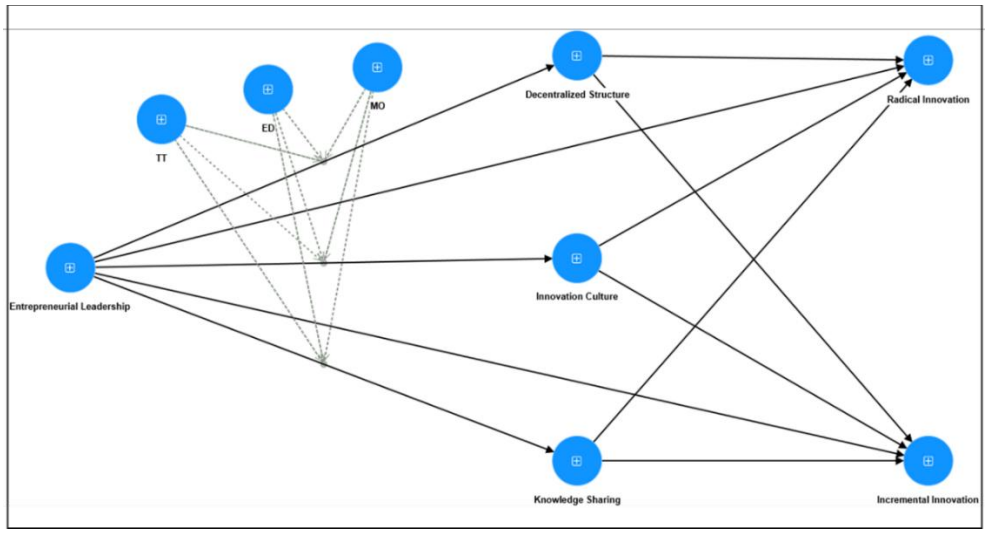


Figure 4.1: Framework of PLS-SEM Analysis

Furthermore, the bootstrap algorithm was run to determine whether the path coefficients and p values for the relationships between the variables were sufficiently significant to find a moderating effect on the existing relationship between entrepreneurial leadership (IV) and IC/DS/KS(DV). The ModVs were not influenced by entrepreneurial

leadership (IV), but it could affect the strength and direction of the relationship between entrepreneurial leadership (IV) and IC/DS/KS(DV).

4.2.5 Assessing the Positive Association Between Entrepreneurial Leadership and Innovation Performance (Hypothesis H1)

The bivariate analysis explores how the outcome DV (Radical Innovation and Incremental Innovation) depends upon or is explained by the explanatory independent predictor variable (Entrepreneurial Leadership). Bivariate analysis was used to analyse the strength of the relationship between the variables identified in Research Question 1 to determine whether a statistical association exists between the variables (Entrepreneurial Leadership → Radical/Incremental Innovation). This analysis determines the empirical relationship between entrepreneurial leadership (IV) and II/RI (DV).

H1a. The CEO's Entrepreneurial leadership has a positive effect on the radical innovation performance of CIEs.

H1b. The CEO's Entrepreneurial leadership has a positive effect on the incremental innovation performance of CIEs.

Statistical analysis results of the inner model showed a significant positive relationship between entrepreneurial leadership and radical innovation/incremental innovation (p-value < 0.01), as Table 4.5 shows.

Table 4.5: Result of Hypotheses Test H1a - H1b

Effects	Path	Beta	T statistics	p values	Decision
		Direct Relations			
H1a	EL -> RI	0.737	13.134	0.000	Yes
H1b	EL -> II	0.539	11.029	0.000	Yes

A path coefficient of 0.737 indicates that a one-unit increase in the value of entrepreneurial leadership is related to a 0.737 increase in the value of radical innovation, and a path coefficient of 0.539 indicates that a one-unit increase in the value of entrepreneurial leadership is related to a 0.539 increase in the value of incremental innovation.

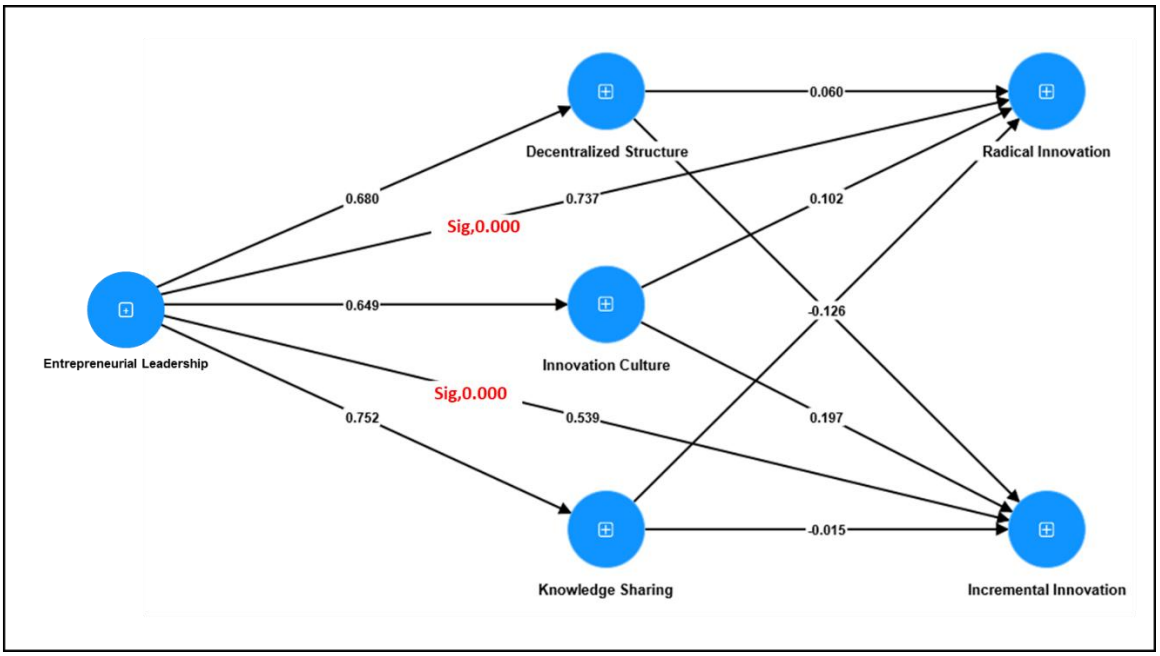


Figure 4.2: Path Examination H1 Result

Therefore, the null hypothesis was rejected, and Hypothesis 1a/1b was supported, the paths were proved to be there as shown by **Figure 4.2:** Path Examination H1 Result.

4.2.6 Examining the Mediating Role of Organizational Factors Between Entrepreneurial Leadership and Innovation Performance (Hypotheses H2-H7)

Mediation occurs when a third variable intervenes in the relationship between the exogenous (entrepreneurial leadership) and endogenous (e.g., radical innovation) construct. To determine whether IC/DS/KS mediated the relationship between entrepreneurial leadership and radical innovation/incremental innovation, the study examined the total,

direct, and indirect effects to determine whether the relationship between entrepreneurial leadership and radical innovation/incremental innovation was significant. The multivariate statistical analysis provided results for Hypotheses 2 to Hypotheses 7.

H2. Entrepreneurial leadership has a positive effect on the innovation culture of CIEs.

H3a. Innovation culture has a positive effect on the radical innovation performance of CIEs.

H3b. Innovation culture has a positive effect on the incremental innovation performance of CIEs.

H3c. Innovation culture positively mediates EL's effect on radical innovation.

H3d. Innovation culture positively mediates EL's effect on incremental innovation.

Referring to Figure 4.3, mediation analysis was performed to assess the mediating role of IC in the relationship between entrepreneurial leadership (IV) and radical innovation/incremental innovation (DV).

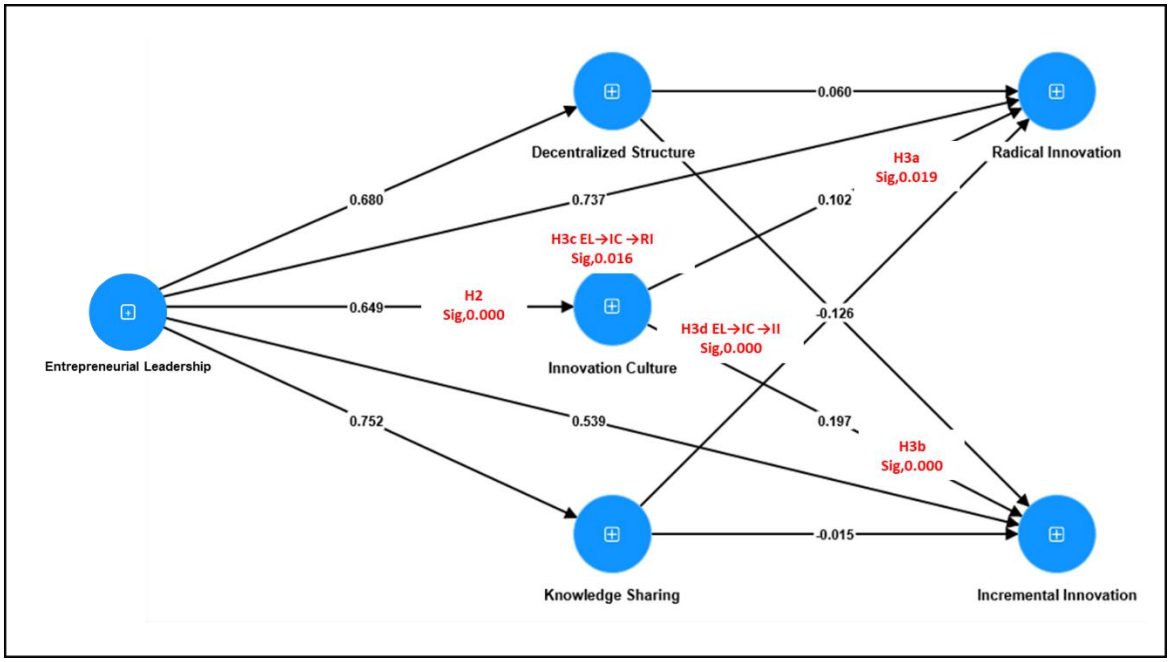


Figure 4.3: Path Examination H2-H3 Result

With the inclusion of the MedV (innovation culture), the results revealed that the direct effect of the influence of entrepreneurial leadership (IV) on innovation culture (DV) was significant (path coefficient = 0.649, p = < 0.001). The influence of innovation culture (IV) on RI/II (DV) was also significant (path coefficient of on RI = 0.102 with p = < 0.001, path coefficient of on II = 0.197 with p = < 0.001). The indirect of entrepreneurial leadership (IV) on radical innovation/incremental innovation (DV) through the MedV (innovation culture) was also significant (path coefficient of RI = 0.066 with p = < 0.001, path coefficient of II = 0.128 with p = < 0.001). According to Hair et al. (2017), the result was that the relationship between entrepreneurial leadership and radical innovation/incremental innovations is direct. Meanwhile, it is mediated by the mediator, which, as

Table **4.6** shows, is a partial mediation effect by IC on the relationship between EL and RI/II.

Table 4.6: Result of Hypotheses Test H2 – H3

Effects	Path	Beta	T statistics	p values	Decision
H2	EL -> IC	0.649	27.094	0.000	Yes
H3a	IC -> RI	0.102	2.347	0.019	Yes
H3b	IC -> II	0.197	4.962	0.000	Yes
H3c	EL -> IC -> RI	0.066	2.400	0.016	Yes
H3d	EL -> IC -> II	0.128	5.022	0.000	Yes

H4. Entrepreneurial leadership has a positive effect on the decentralisation structure of CIEs.

H5a. Decentralisation structure has a positive effect on the radical innovation performance of CIEs.

H5b. Decentralisation structure has a positive effect on the incremental innovation performance of CIEs.

H5c. Decentralisation structure positively mediates EL's effect on radical innovation.

H5d. Decentralisation structure positively mediates EL's effect on incremental innovation.

With the inclusion of the decentralisation structure, regarding the Figure 4.4: Path Examination H4-H5 Result and Table 4.7: Result of Hypotheses Test H4 – H5, the results revealed that the direct effect of the influence of entrepreneurial leadership (IV) on decentralisation structure (DV) was significant (path coefficient = 0.680, p = < 0.001). The influence of decentralisation structure (IV) on II (DV) was also significant (path coefficient = 0.220 with p = < 0.001).

Table 4.7: Result of Hypotheses Test H4 – H5

Effects	Path	Beta	T statistics	p values	Decision
H4	EL -> DS	0.680	26.200	0.000	Yes
H5a	DS -> RI	0.060	1.491	0.136	No
H5b	DS -> II	0.220	5.453	0.000	Yes
H5c	EL -> DS -> RI	0.041	1.483	0.138	No
H5d	EL -> DS -> II	0.149	5.105	0.000	Yes

However, the influence of decentralisation structure (IV) on RI (DV) was not significant (path coefficient = 0.060 with p > 0.001). The indirect of entrepreneurial leadership (IV) on incremental innovation (DV) through the MedV (decentralisation structure) was significant (path coefficient of RI = 0.149 with p = < 0.001).

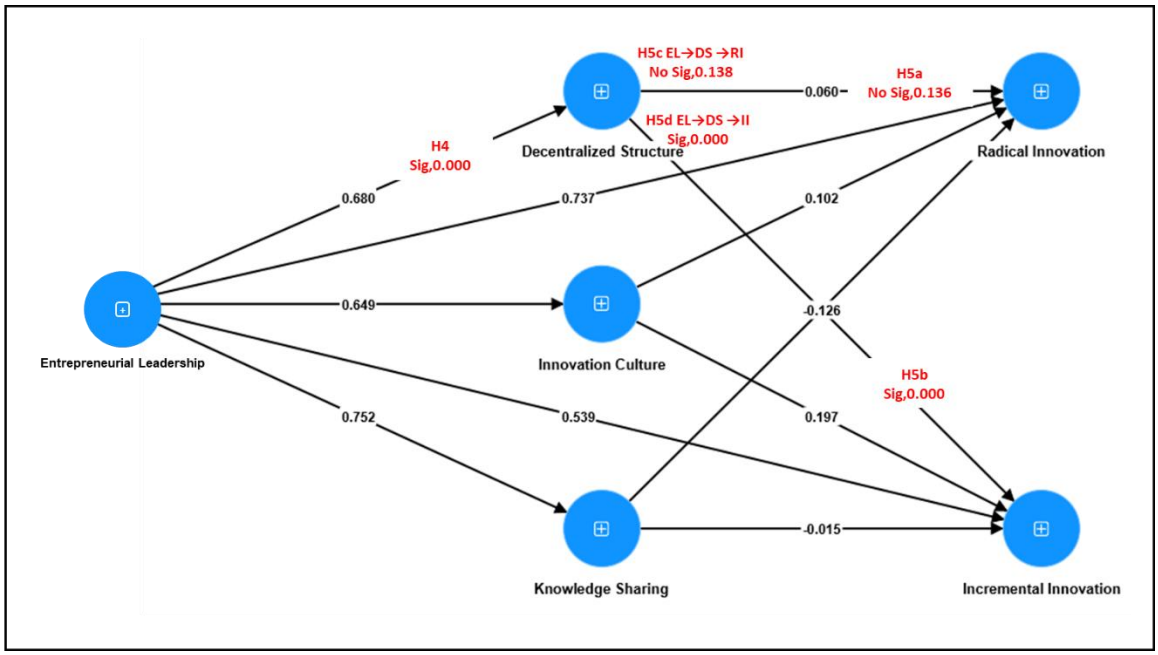


Figure 4.4: Path Examination H4-H5 Result

Furthermore, the indirect of entrepreneurial leadership (IV) on radical innovation (DV) through the MedV (decentralisation structure) was not significant (path coefficient of RI = 0.041 with p > 0.001). According to Hair et al. (2017), the result was that the relationship between entrepreneurial leadership and incremental innovations direct and

partial mediation exists between EL and II through DS, with no DS on RI and no mediation effect of DS between EL and RI.

H6. Entrepreneurial leadership has a positive effect on the knowledge sharing of CIEs.

H7a. Knowledge sharing has a positive effect on the radical innovation performance of CIEs.

H7b. Knowledge sharing has a positive effect on the incremental innovation performance of CIEs.

H7c. Knowledge sharing positively mediate EL's effect on radical innovation.

H7d. Knowledge sharing positively mediate EL's effect on incremental innovation.

With the inclusion of the knowledge sharing, the results revealed that the direct effect of the influence of entrepreneurial leadership (IV) on knowledge sharing (DV) was significant (path coefficient = 0.752, p = < 0.001), as **Figure 4.5:** Path Examination H6-H7 Result shows, the influence of knowledge sharing (IV) on RI (DV) was significant (path coefficient = -0.126 with p = 0.007).

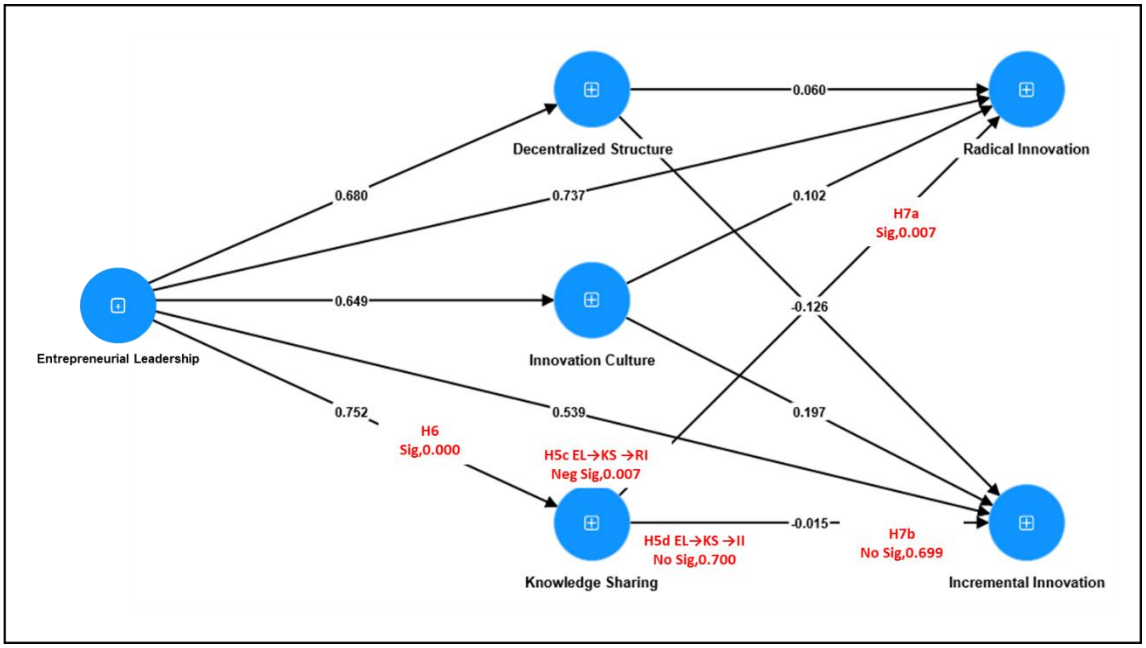


Figure 4.5: Path Examination H6-H7 Result

However, as illustrated in **Table 4.8:** Result of Hypotheses Test H6 – H7, the influence of knowledge sharing (IV) on II (DV) was not significant (path coefficient = -0.015 with p=0.699). The indirect of entrepreneurial leadership (IV) on radical innovation (DV) through the MedV (knowledge sharing) was significant (path coefficient = -0.095 with p=0.007). The indirect effect of entrepreneurial leadership (IV) on incremental innovation (DV) through the MedV (knowledge sharing) was not significant (path coefficient of RI = -0.012 with p = 0.700), while the indirect effect of entrepreneurial leadership (IV) on radical innovation (DV) through the MedV (knowledge sharing) was negatively significant (path coefficient of RI = -0.095 with p = 0.007), which though not meet with hypothesis but provide insights that will be discussed further in chapter 5.

Table 4.8: Result of Hypotheses Test H6 – H7

Effects	Path	Beta	T statistics	p values	Decision
H6	EL -> KS	0.752	38.183	0.000	Yes
H7a	KS -> RI	-0.126	2.688	0.007	No, Neg Sig
H7b	KS -> II	-0.015	0.386	0.699	No
H7c	EL -> KS -> RI	-0.095	2.684	0.007	No, Neg Sig
H7d	EL -> KS -> II	-0.012	0.386	0.700	No

4.2.7 Interpretation of R-squared Values

The R-squared (R^2) values hold significant implications for understanding of the determinants of Incremental Innovation (II) and Radical Innovation (RI) within the context of CIEs. These values represent the proportion of variance in II and RI that can be attributed to the included variables, encompassing Entrepreneurial Leadership (EL) and the mediating factors of Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS).

Incremental Innovation (II): R-square=0.703

An R-squared value of 0.703 for Incremental Innovation means the model can explain roughly 70.3% of the variance in II. This indicates that approximately 70.3% of the variability in Incremental Innovation can be attributed to the independent variables within this model. Such a high value portrays a substantial effect, implying that the model is a proficient predictor of II.

Radical Innovation (RI): R-square=0.577

With an R-squared value of 0.577, the model illuminates about 57.7% of the variance in Radical Innovation. This means that, in the context of Radical Innovation, this model can explain approximately 57.7% of the variations in the dependent variable. A value of this

magnitude denotes a moderate to high level of variance effect, implying that the model can effectively capture and predict changes in RI.

Decentralisation Structure (DS): R-square=0.463

An R-squared value of 0.463 for the Decentralization Structure suggests that the model is adept at clarifying nearly 46.3% of the variance in DS. In simpler terms, the model can account for roughly 46.3% of the fluctuations in the Decentralization Structure. This denotes a moderate variance effect, showcasing that the model provides a substantial understanding of DS.

Innovation Culture (IC): R-square=0.421

With an R-squared value of 0.421, the model effectively explains around 42.1% of the variance in Innovation Culture. In other words, the independent variables included in the model explain approximately 42.1% of the variations in IC. This represents a moderate variance effect, highlighting the model's proficiency in predicting IC.

Knowledge Sharing (KS): R-square=0.565

The R-squared value of 0.565 indicates the model is proficient at illuminating approximately 56.5% of the variance in Knowledge Sharing. This means that the model can effectively explain about 56.5% of the variations in KS. A value of this magnitude signifies a moderate to high variance effect, illustrating the model's capacity to predict changes in KS accurately.

In short, the R-squared values provide insights into how well the model captures the variations in the dependent variables. These values indicate the percentage of variability in

Incremental Innovation, Radical Innovation, Decentralization Structure, Innovation Culture, and Knowledge Sharing that can be accounted for by the model's independent variables. The adjusted R-squared values, while more conservative, continue to underscore the model's effectiveness in predicting these constructs, albeit after considering the influence of predictors.

According to Hair et al. (2013), after testing the main path (IV/DV/Mediation) of study, in order to avoid mistakes of main and simple effects, moderators should be examined one by one. Therefore, next the study will examine the moderators in sequence as proposed in the previous discussions.

4.2.8 Moderating Influence of Factors on the Relationship Between Entrepreneurial Leadership and IC/DS/KS (Hypotheses H8-H16)

The relationship between entrepreneurial leadership and moderators was examined to determine whether moderators modified, strengthened, or weakened this relationship (ModV). The primary evaluation for consideration was the path coefficients and total effects, which indicated whether the intervening variables transmitted effects from one variable to another in the relationship between entrepreneurial leadership (IV) and IC/DS/KS (DV). The investigation starts with examination on H8-H10, technological turbulence's moderating role.

H8. Technological turbulence positively moderates the relationship between entrepreneurial leadership and innovation culture.

H9. Technological turbulence positively moderates the relationship between entrepreneurial leadership and the decentralisation structure

H10. Technological turbulence positively moderates the relationship between entrepreneurial leadership and knowledge sharing.

The study examined the combined influence of technological turbulence and entrepreneurial leadership on organizational aspects. While the hypothesized TT's moderation between entrepreneurial leadership and innovation culture did not yield statistically significant results (H8: TT x EL -> IC, $\beta = 0.017$, $t = 0.618$, $p = 0.536$), as shown in **Table 4.9**, the investigation uncovered compelling evidence for the moderating effects of technological turbulence in DS and KS.

Table 4.9: Hypothesis Results H8-H10

Effects	Path	Beta	T statistics	p values	Decision
H8	TT x EL -> IC	0.017	0.618	0.536	No
H9	TT x EL -> DS	0.074	2.742	0.006	Yes
H10	TT x EL -> KS	0.046	2.086	0.037	Yes

Specifically, the empirical analysis confirmed that in the presence of heightened technological turbulence, the synergy between entrepreneurial leadership and the adoption of a decentralised organisational structure yielded significant positive outcomes (H9: TT x EL -> DS, $\beta = 0.074$, $t = 2.742$, $p = 0.006$). Moreover, the study underscored the pivotal role of technological turbulence in magnifying the association between entrepreneurial leadership and knowledge sharing (H10: TT x EL -> KS, $\beta = 0.046$, $t = 2.086$, $p = 0.037$), wherein increased technological turbulence substantiates the influence of entrepreneurial leaders in promoting effective knowledge dissemination throughout the organisation, referring to **Figure 4.6:** Moderation Analysis for H8-H10 .

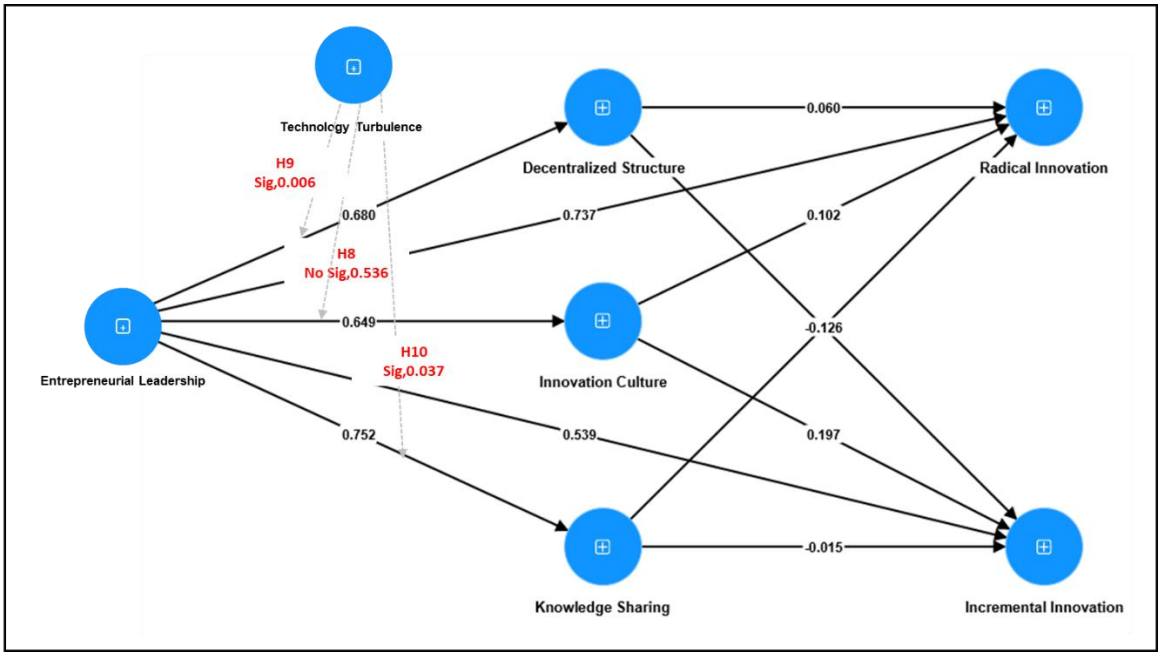


Figure 4.6: Moderation Analysis for H8-H10

These findings, grounded in the empirical analysis of SmartPLS output, collectively illuminate the nuanced ways in which entrepreneurial leadership, in the context of technological turbulence, influences organisational channel factors. As businesses navigate an era of rapid technological change, the study's insights offer valuable implications for leveraging entrepreneurial leadership to navigate organisational transitions and foster adaptive responses to dynamic environments.

Simple Slope Analysis: Moderating Effect of Technological Turbulence

Meanwhile, to interpret whether TT had an interaction effect on entrepreneurial leadership and IC/DS/KS, a simple slope analysis was conducted to get a quick visual observation to help explain the interaction effects and to determine whether there was a moderating effect.

At the outset, the simple slope analysis indicated no moderating effect on IC, as in the figure below in Figure 4.7, showing the parallel lines of the slopes in the graph.

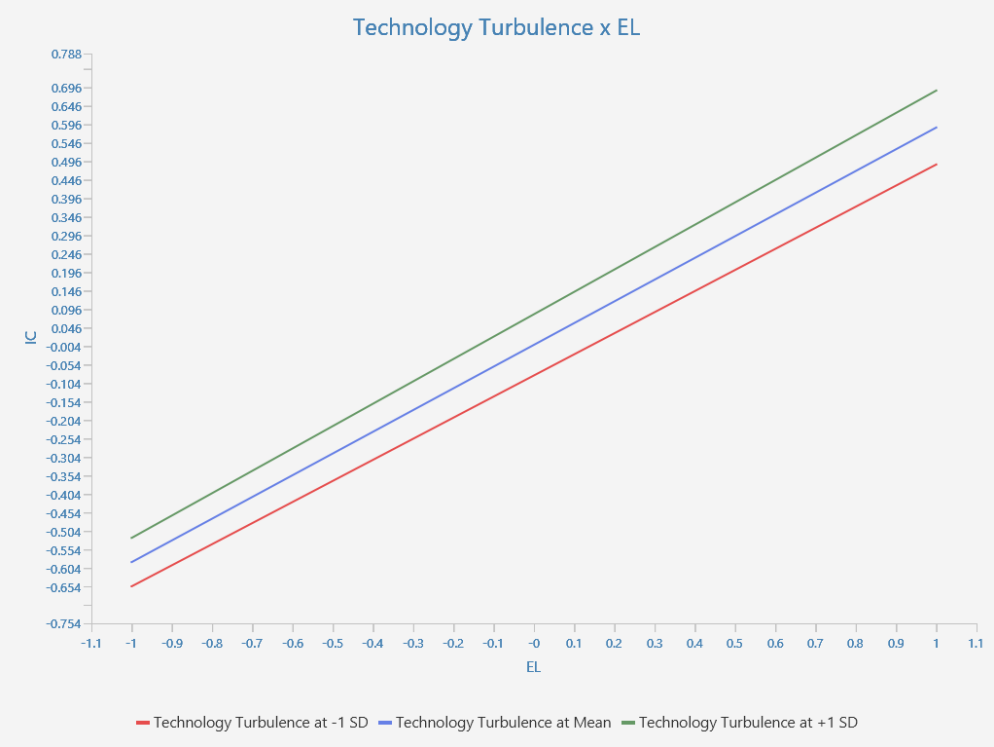


Figure 4.7: SSA of TT x EL on IC

The observed patterns in the simple slope analysis graphs indicate TT's interaction effect on DS within the structural model. As depicted in Figure 4.8, the positioning of the slopes visually represents the moderating effects. When extended beyond the graph's boundaries, the nature of the line's hints at a potential intersection on the positive side. When extended, the green slopes above the mean underscore positive interactions.

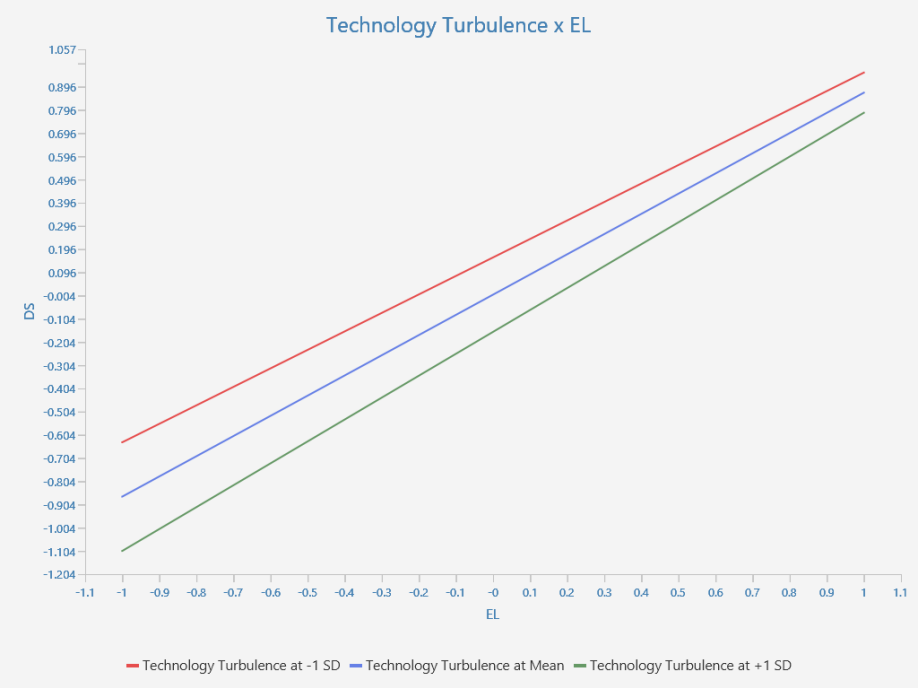


Figure 4.8: SSA of TT x EL on DS

Furthermore, the analysis suggests that TT potentially influences the relationship between EL and KS in a moderating manner as shown in Figure 4.9. The intersection will happen if extending the lines.

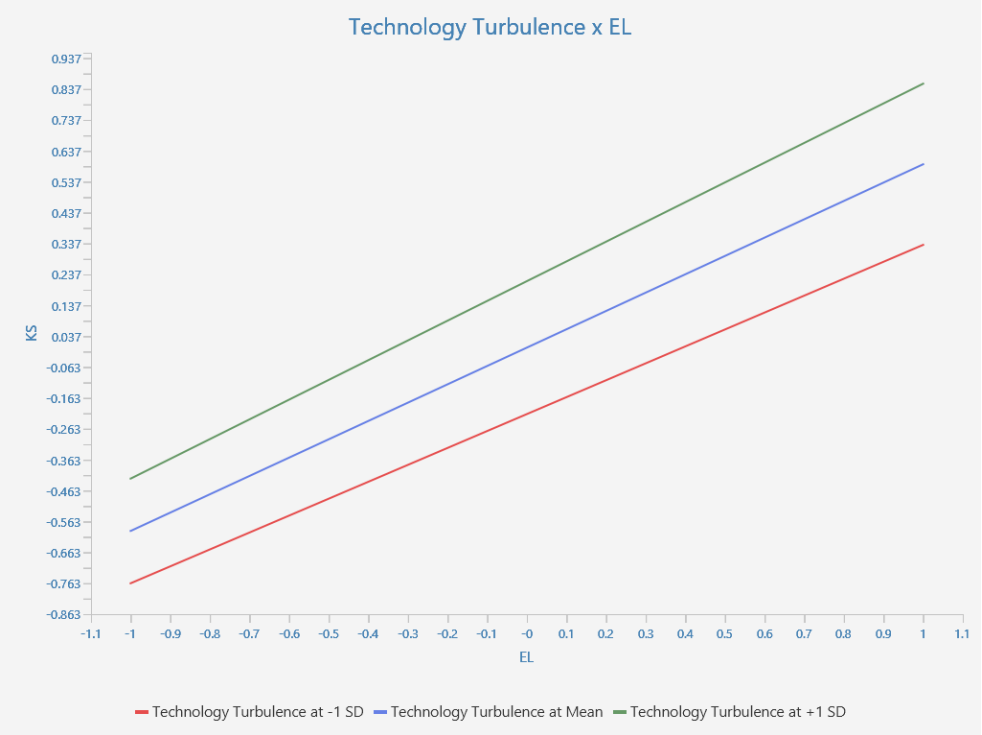


Figure 4.9: SSA of TT x EL on KS

To summarise, the slope analysis demonstrates that TT positively augments the influence of EL on KS and DS. Thus, heightened levels of TT enhance the positive influence of EL, fostering an environment conducive to the alignment with the DS and the facilitation of KS. These findings are also robustly supported by the bootstrap algorithm, reaffirming path coefficients and p-values and solidifying the presence of a moderating effect of Technological Turbulence on the relationships between EL and KS/DS, as discussed previously.

H11. Environmental dynamism positively moderates the relationship between entrepreneurial leadership and innovation culture.

H12. Environmental dynamism positively moderates the relationship between entrepreneurial leadership and decentralization structure

H13. Environmental dynamism positively moderates the relationship between entrepreneurial leadership and knowledge sharing.

Next, the study investigated the moderating role of ED in the relationships between EL and IC/KS/DS. The results provided insights into the relationships between these variables, as depicted in Table 4.10.

Table 4.10: Hypothesis Results H11-H13

Effects	Path	Beta	T statistics	p values	Decision
H11	ED x EL -> IC	0.016	0.577	0.564	No
H12	ED x EL -> DS	0.062	2.331	0.020	Yes
H13	ED x EL -> KS	0.049	2.485	0.013	Yes

Regarding Hypothesis H11, which explored the moderating effect of ED on the relationship between EL and Innovation Culture (IC), the analysis demonstrated a path coefficient of 0.016 and a T statistic of 0.577 ($p = 0.564$), indicating that the interaction effect was statistically insignificant. Therefore, this study finds that ED does not significantly moderate the relationship between EL and IC, suggesting that the fierce environmental dynamism may not substantially influence entrepreneurial leaders' decisions to improve the organisational innovation culture, referring to the illustration of **Figure 4.10:** Moderation Analysis for H11-H13.

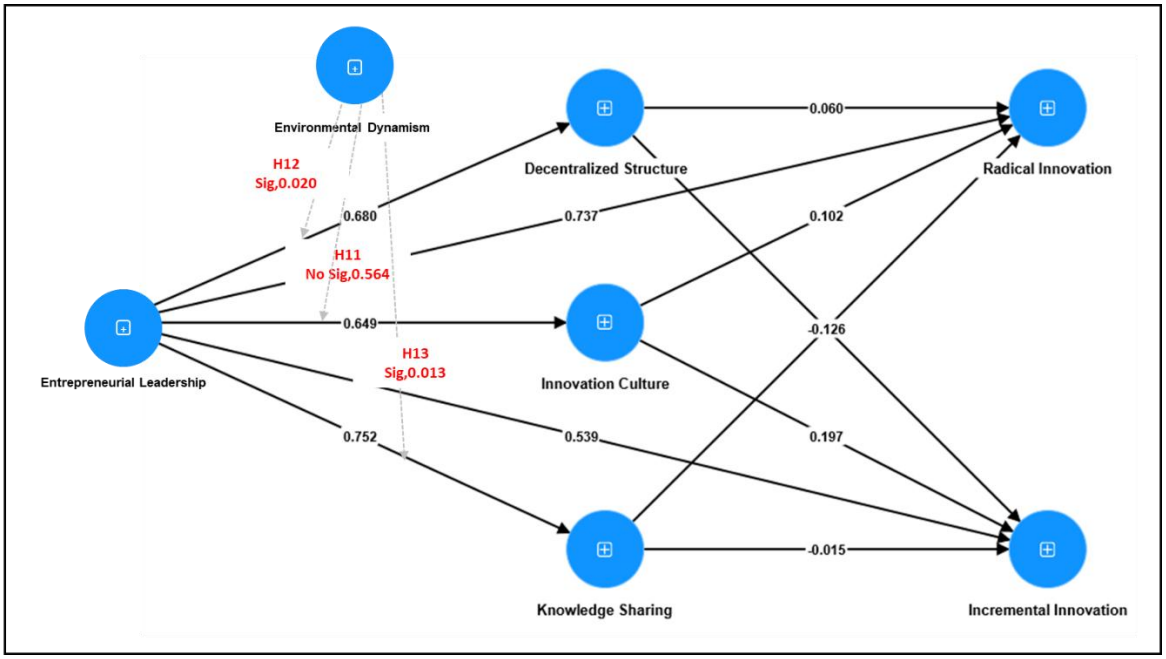


Figure 4.10: Moderation Analysis for H11-H13

In contrast, Hypothesis H12 yielded noteworthy results. The investigation into the moderating effect of ED on the relationship between EL and DS revealed a path coefficient of 0.062 with a T statistic of 2.331 (p = 0.020), signifying a statistically significant interaction effect. Consequently, this study supports Hypothesis 12, implying that a robust environmental dynamism can positively moderate the relationship between EL and DS, potentially enhancing the implementation and efficacy of decentralised structures.

Furthermore, Hypothesis H13 discussed the moderating role of ED in the relationship between EL and Knowledge Sharing (KS). The findings indicated a path coefficient of 0.049 and a T statistic 2.485 (p = 0.013), demonstrating a statistically significant interaction effect. Therefore, this study supports Hypothesis 13, suggesting that ED positively moderates the relationship between EL and KS.

These findings contribute to a deeper understanding of the dynamics between entrepreneurial leadership and organisational factors when facing environmental dynamism.

They shed light on the ways environmental dynamism can interact with leadership practices to influence specific aspects of organisational functioning. These results provide better understanding on ED within organisational settings and offer practical implications for organisations seeking to optimise innovation culture, decentralised structures, and knowledge sharing in pursuit of enhanced overall performance.

Simple Slope Analysis: Moderating Effect of Decentralisation Structure

The simple slope analysis graphs vividly unveil potential interaction effects within the structural model, yielding profound insights into the relationship between Environmental Dynamism (ED) and Entrepreneurial Leadership (EL) on various organisational outcomes. In the context of ED moderating EL's influence, the positions of the slopes in Figure 4.11, Figure 4.12, and Figure 4.13 provide a clear visual indication of this interaction's presence.

Analysing the outcomes, it becomes evident that ED has the potential to moderate the relationships between EL and DS/KS significantly. The slope separation with the intersection can be foreseen. Notably, the green slope, positioned above the mean after the foreseen intersection, offers a preliminary insight into the nature of this interaction—signalling a strengthening effect. This effect hints at the augmentation of ED's influence, enhancing the association between EL (x-axis) and the DS/KS (y-axis). The arrangement and orientation of these slopes hold vital interpretive value, underscoring the pivotal role of ED in shaping the interaction between EL (IV) and the organisational mediators. The substantiation of these observations emerges from robust bootstrapping results that validate the moderation effects statistically.

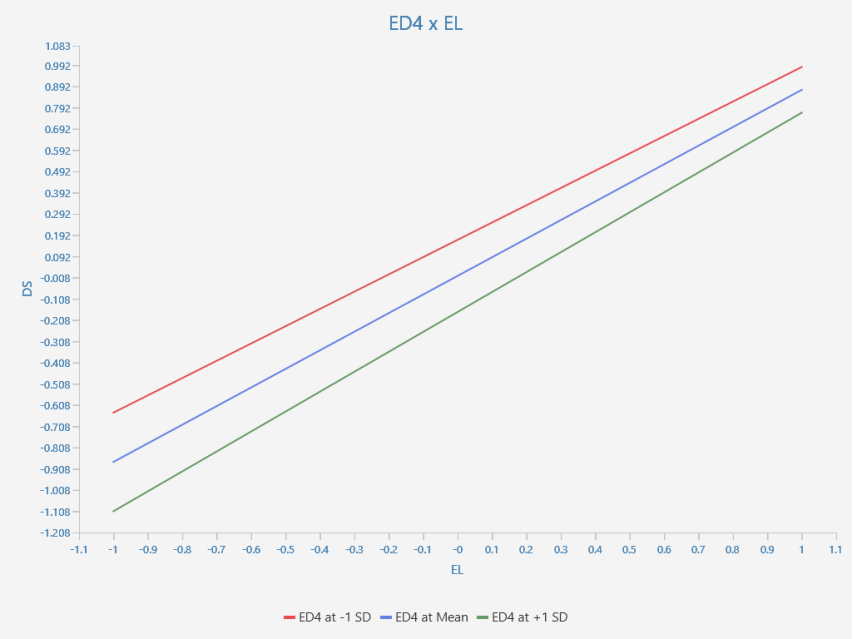


Figure 4.11: SSA of ED x EL on DS

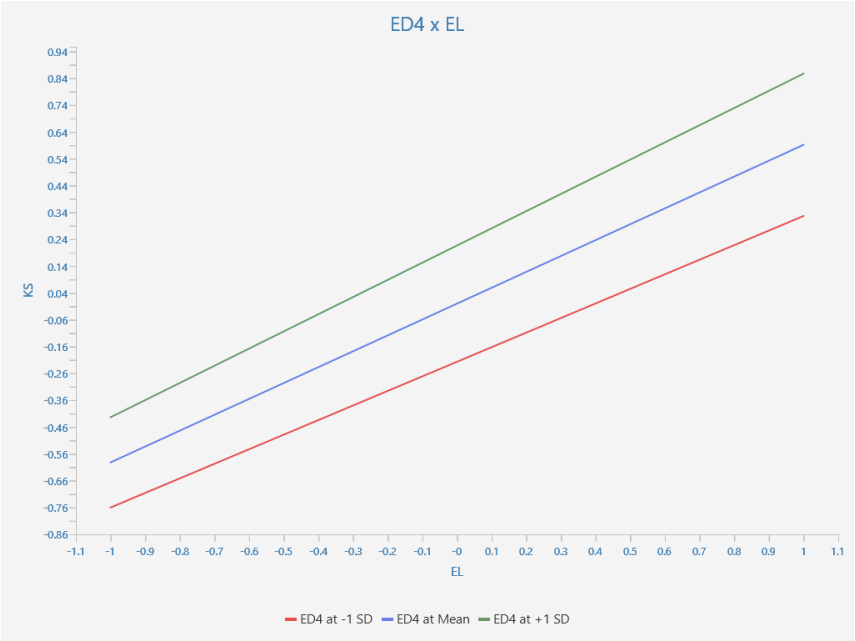


Figure 4.12: SSA of ED x EL on KS

The analysis underscores that the influence of EL on the outcomes of Decentralization Structure and Knowledge Sharing—is notably strengthened by the presence of higher ED. In contrast, Innovation Culture has not been strengthened under a higher dynamic environment due to the noticeable parallel lines observed in Figure 4.13.

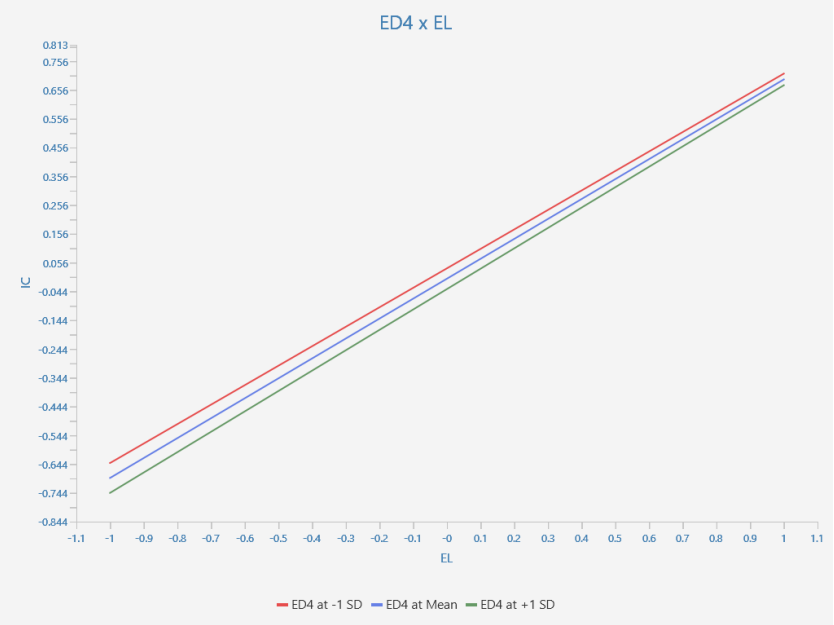


Figure 4.13: SSA of ED x EL on IC

These insights gain substantial reinforcement from the bootstrap algorithm presented previously, which examined the statistical validity of the path coefficients and p-values, thereby reinforcing the significant moderating effect of Environmental Dynamism on the relationships between Entrepreneurial Leadership and the organisational channel factors (IC/KS/DS).

H14. Market Orientation positively moderates the relationship between entrepreneurial leadership and innovation culture.

H15. Market Orientation positively moderates the relationship between entrepreneurial leadership and the decentralisation structure

H16. Market Orientation positively moderates the relationship between entrepreneurial leadership and knowledge sharing.

Next, this research aimed to investigate the moderation role of market orientation (MO) between entrepreneurial leadership (EL) and organisational channels (IC/DS/KS). Examining these relations provided nuanced insights into the interactions between these elements, as shown in Table 4.11.

Table 4.11: Result of Hypotheses Test H14 - H16

Effects	Path	Beta	T statistics	p values	Decision
H14	MO x EL -> IC	0.020	0.768	0.442	No
H15	MO x EL -> DS	0.062	2.101	0.036	Yes
H16	MO x EL -> KS	0.020	0.822	0.411	No

Turning to Hypothesis H14, which sought to explore the moderating role of Market Orientation in the relationship between EL and Innovation Culture (IC), the analysis indicated a path coefficient of 0.020 and a T statistic of 0.768 ($p = 0.442$), rendering the interaction statistically insignificant. Consequently, this study does not support Hypothesis 14, suggesting that the organisation's market orientation may not significantly influence fostering innovation culture through entrepreneurial leadership, as shown in **Figure 4.14:** Moderation Analysis for H14-H16.

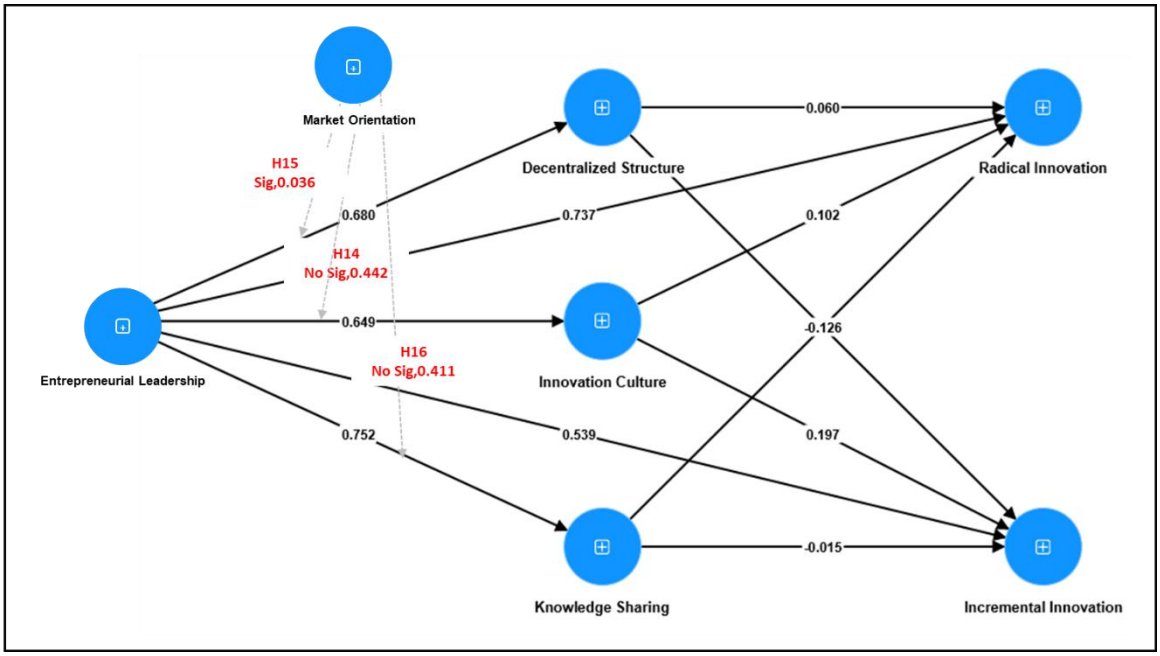


Figure 4.14: Moderation Analysis for H14-H16

Conversely, H15 yielded significant findings. The investigation into the moderating effect of Market Orientation on the relationship between EL and Decentralization Structure (DS) revealed a path coefficient of 0.062 and a T statistic of 2.101 (p = 0.036), signifying a statistically significant interaction effect. Thus, Hypothesis 15 is supported, indicating that Market Orientation positively moderates the relationship between Entrepreneurial Leadership and Decentralization Structure.

As to H16, which explored the moderating effect of Market Orientation on the relationship between EL and Knowledge Sharing (KS), the analysis revealed a path coefficient of 0.020 and a T statistic of 0.822 (p = 0.411), indicating a lack of statistically significant interaction. Therefore, Hypothesis 16 is not supported, implying that the influence of Entrepreneurial Leadership on knowledge sharing may not be significantly contingent on the organisation's market orientation.

In short, the findings contribute to a deeper comprehension of the relationship between Entrepreneurial Leadership and organisational mediators when adopting Market Orientation. While Market Orientation significantly moderates the relationship between Entrepreneurial Leadership and Decentralization Structure, its moderation effects on Innovation Culture and Knowledge Sharing appear limited.

Simple Slope Analysis: Moderating Effect of Market Orientation

The simple slope analysis results illuminate insights into the role of Market Orientation (MO) on Entrepreneurial Leadership (EL) and its influence on organizational elements (IC/KS/DS). Notably, the analysis underscores a distinctive pattern where the slopes of the lines remain nearly parallel for MO x IC and MO x KS, indicating that the interactions between MO and EL do not significantly influence Innovation Culture (IC) and Knowledge Sharing (KS). However, it is worth noting that one exception stands out—specifically, the interaction between MO and EL does exert a significant influence on Decentralization Structure (DS) as the cross of the lines that later figures present.

The analysis delineates that Market Orientation shapes the interaction between EL and DS. This interaction is evident through the lines in the graph, extending beyond its bounds. These results underscore the potential for Market Orientation to amplify the effects of Entrepreneurial Leadership on Decentralization Structure, as shown in Figure 4.15.

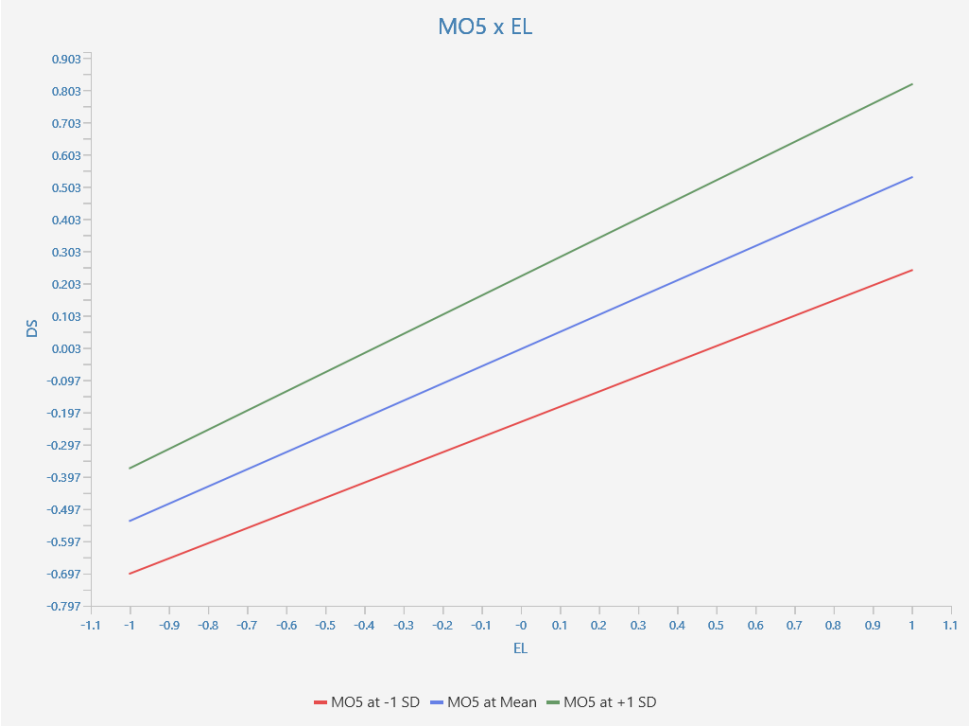


Figure 4.15: SSA of MO x EL on DS

However, while the interactions between Market Orientation and Entrepreneurial Leadership do exhibit significant influence on DS, the compelling evidence of parallel lines of MO x EL on IC and MO x EL on KS(as shown below Figure 4.16 and Figure 4.17) underscores insignificant moderation through MO to IC and KS.



Figure 4.16: SSA of MO x EL on IC



Figure 4.17: SSA of MO x EL on KS

4.2.9 Summary of the Quantitative Results

In this section, this research explored the relationship between EL and RI/II respectively, and further examined whether IC/KS/DS mediated the relationship between entrepreneurial leadership and CIEs' innovation performance and whether this mediated relationship was moderated by intervening factors, specifically TT/MO/ED. Finally, the results were concluded as the end of this quantitative findings section, referring to the table below.

Table 4.12: Summary of Quantitative Findings

Hypothesis	Description	Model	Regression Analysis	Reason
H1a	EL positively associated with RI	EL → RI	Supported	Sig
H1b	EL positively associated with II	EL → II	Supported	Sig
H2	EL positively associated with IC	EL -> IC	Supported	Sig
H3a	IC positively associated with RI	IC -> RI	Supported	Sig
H3b	IC positively associated with II	IC -> II	Supported	Sig
H3c	IC positively mediate between EL and RI	EL -> IC -> RI	Supported	Sig
H3d	IC positively mediate between EL and II	EL -> IC -> II	Supported	Sig
H4	EL positively associated with DS	EL -> DS	Supported	Sig
H5a	DS positively associated with RI	DS -> RI	Not Supported	No Sig
H5b	DS positively associated with II	DS -> II	Supported	Sig
H5c	DS positively mediated between EL and RI	EL -> DS -> RI	Not Supported	No Sig
H5d	DS positively mediated between EL and II	EL -> DS -> II	Supported	Sig
H6	EL positively associated with KS	EL -> KS	Supported	Sig
H7a	KS positively associated with RI	KS -> RI	Not Supported	Negative Sig
H7b	KS positively associated with II	KS -> II	Not Supported	No Sig
H7c	KS positively mediated between EL and RI	EL -> KS -> RI	Not Supported	Negative Sig
H7d	KS positively mediated between EL and II	EL -> KS -> II	Not Supported	No Sig
H8	TT positively moderated EL on IC	TT x EL -> IC	Not Supported	No Sig
H9	TT positively moderated EL on DS	TT x EL -> DS	Supported	Sig
H10	TT positively moderated EL on KS	TT x EL -> KS	Supported	Sig
H11	ED positively moderated EL on IC	ED x EL -> IC	Not Supported	No Sig
H12	ED positively moderated EL on DS	ED x EL -> DS	Supported	Sig
H13	ED positively moderated EL on KS	ED x EL -> KS	Supported	Sig
H14	MO positively moderated EL on IC	MO x EL -> IC	Not Supported	No Sig
H15	MO positively moderated EL on DS	MO x EL -> DS	Supported	Sig
H16	MO positively moderated EL on KS	MO x EL -> KS	Not Supported	No Sig

4.3 Findings of Qualitative Research

A total of 14 senior managers, as indicated in **Table 4.13**, willingly participated in the qualitative interviews of this study. The study employed semi-structured interviews, which were recorded and transcribed into Microsoft Word using Xunfei Audio Translator. The transcribed data were then converted into text format and imported into MAXQDA 2020, a qualitative software tool for processing and analysing qualitative data. The primary objectives of these interviews were twofold: first, to explore and examine the senior managers' perceptions of entrepreneurial leadership initiatives or practices on innovation, and second, to identify various internal and external factors related to entrepreneurial leadership that may have influenced organisational factors. The qualitative data were analysed using the conceptual content analysis approach discussed in Chapter Three. A detailed discussion of the study's implications will be provided in Chapter Five.

4.3.1 Demographic Profile of Interviewees and Interview Results

A total of 14 senior managers who often have access to the CEO meetings or can directly observe CEO leadership behaviours were interviewed, and each interview lasted about half an hour.

All interviewees were affirmed before the interview to have opportunities to observe CEO leadership behaviours directly in their daily work. **Table 4.13** below depicts the overview of the interviewees' positions and companies they worked in during the interview.

Table 4.13: Demographic Profile of Interviewees

Interviewee	Job Level	Company Work
Interviewee1	Senior Manager	Baidu
Interviewee2	Senior Manager	Baidu
Interviewee3	Senior Manager	Alibaba
Interviewee4	Senior Manager	Alibaba
Interviewee5	Senior Manager	Tencent
Interviewee6	Senior Manager	Tencent
Interviewee7	Senior Manager	JD
Interviewee8	Senior Manager	JD
Interviewee9	Senior Manager	Meituan
Interviewee10	Senior Manager	Meituan
Interviewee11	Senior Manager	Tiktok
Interviewee12	Senior Manager	Tiktok
Interviewee13	Senior Manager	Bytedance
Interviewee14	Senior Manager	Bytedance

The qualitative methodology employed by this study is conducting semi-structured interviews. This format placed significant emphasis on the interviewer's intuitive skills and their use of probing techniques to gain deeper insights as interviewees disclosed additional information about themselves or their businesses (Onwuegbuzie et al., 2009b). Additionally, the interpretive flow technique proposed by Fay (1987) and Radbron et al. (2021) was followed. Upon analysing the interview transcripts, the results were categorised into two major themes: Radical Innovation and Incremental Innovation. This categorisation aligns with the perspective that Burns (2020) conceptualises innovation performance as innovation scales. Furthermore, sub-themes within each significant theme were also identified. A summary of the major themes and sub-themes have been explained in the table below.

Table 4.14: Summary of the Major Themes and Sub-themes

Major Themes	Sub-themes
4.3.2 Factors Motivating CIEs to Pursue Radical Innovation and Incremental Innovation	4.3.2.1 CEO's EL as a Core Driver 4.3.2.2 CEO's EL as Resource Availability 4.3.2.3 CEO's EL as Operational Efficiency 4.3.2.4 CEO's EL as Customer-Centricity 4.3.2.5 CEO's EL as Employee Involvement 4.3.2.6 CEO's EL as Passion 4.3.2.7 CEO's EL as Market Competitiveness 4.3.2.8 CEO's EL as Response to Government Initiatives
4.3.3 Perception of CIEs on Channels of Radical Innovation and Incremental Innovation	4.3.3.1 Innovation Culture as Ecosystem of Creativity and Progress 4.3.3.2 Decentralization Structure as Structural Empowerment 4.3.3.3 Knowledge Sharing as A Coin but with Two Sides
4.3.4 Factors of External Moderators on Internal Channels	4.3.4.1 Technological Turbulence as Motivator of Chasing-up 4.3.4.2 Environmental Dynamism as Motivator of Agility 4.3.4.3 Market Orientation as Navigator to Customer Needs

This section will provide thorough findings on the themes and sub-themes through relevant quotations or excerpts from the interview transcriptions. This method is a recognised technique commonly employed in qualitative research to establish the validity of findings, as attested by scholars (Chen and Sun, 2021, Avby et al., 2019, Balodi, 2016, Onwuegbuzie et al., 2009b).

4.3.2 Factors Motivating CIEs to Pursue Radical Innovation and Incremental Innovation

This section will explore the qualitative findings that shed light on the factors motivating CIEs to pursue radical and incremental innovation. These insights provide a deeper understanding of entrepreneurial leadership and its influence on innovation performance in CIEs. The investigation begins by examining the factors motivating CIEs to pursue radical innovation, shedding light on the internal, external, and personal attributes that drive this ambitious endeavour. The study then explores the factors that stimulate CIEs to engage in incremental innovation, recognising the distinct drivers that promote continuous improvement and gradual advancements.

Through thematic analysis of interviews with senior managers who have a front-row view of CEO leadership behaviours, the study aims to uncover nuanced insights into the mechanisms behind EL and its influence on the innovation initiatives of CIEs. In conjunction with quantitative analyses, these qualitative findings offer a comprehensive understanding of how EL contributes to innovation performance, providing insights to theory and practice advancement in study field of entrepreneurial leadership and innovation.

4.3.2.1 CEO's EL as a Core Driver

CEOs' entrepreneurial leadership (EL) style is a core driver shaping the innovation landscape within CIEs. These leaders' unique approach to leadership significantly influences

the organisation's ability to foster incremental and radical innovation. CEOs embody entrepreneurial leadership and bring their organisations a visionary and dynamic perspective. They prioritise innovation as a strategic imperative and set the tone for a culture encouraging creative thinking and risk-taking. As a result, their EL style becomes a powerful catalyst for innovation.

One illustrative example is Baidu, a prominent search engine company in China. Under the entrepreneurial leadership of its CEO, Baidu has consistently pursued innovative initiatives. An interviewee from Baidu emphasised,

> ***"Our CEO's entrepreneurial leadership style drives us to think beyond boundaries. He fosters an environment where innovative ideas are welcomed and nurtured, leading to our latest AI product, Ernie Bot."***

The CEO's EL style influences incremental innovation by fostering a culture of continuous improvement. These leaders encourage employees to challenge the status quo and seek innovative solutions to everyday problems. They prioritise efficiency and effectiveness in daily operations, driving an optimisation culture. Alibaba, a leading e-commerce conglomerate, reflects this emphasis on incremental innovation. A senior manager at Alibaba noted,

> ***"Our CEO's entrepreneurial leading behaviours are evident in his focus on optimising our processes. This commitment to efficiency drives our ongoing improvements, which is why you can see Alipay updates nearly monthly."***

Furthermore, the CEO's EL style is pivotal in propelling radical innovation. Their visionary outlook inspires teams to explore uncharted territories and tackle industry-

disrupting projects. These leaders champion audacious goals and empower employees to think innovatively. Tencent exemplifies this approach to radical innovation. An interviewee from Tencent shared,

> ***"Pony (CEO) encourages us to push the boundaries of what is possible. He fosters a climate of innovation and supports our bold endeavours, or else you cannot see that WeChat can be popular globally."***

In conclusion, the CEO's entrepreneurial leadership style serves as a core driver of innovation within CIEs. Their visionary outlook, commitment to continuous improvement, and encouragement of audacious goals create an environment where incremental and radical innovation can flourish. This leadership style shapes the innovation landscape and propels CIEs toward excellence in innovation performance.

4.3.2.2 CEO's EL as Resource Availability

Resource availability emerged as another significant factor motivating radical innovation in the interview. CIEs, often backed by substantial resources, possess the capacity to invest in innovative endeavours. These financial resources include access to cutting-edge technologies, research and development capabilities, and skilled talent pools. One senior manager from Alibaba noted,

> ***"Our access to resources empowers us to pursue audacious innovation goals. We have the financial muscle, technological infrastructure, and talented workforce needed for radical innovation."***

This perspective underscores the role of resource availability as a motivating factor within the context of EL and innovation performance.

Resource-rich CIEs can allocate risk capital specifically for radical innovation initiatives, allowing them to experiment with groundbreaking concepts and technologies without putting their core operations at risk. They maintain well-funded research and development labs, providing fertile grounds for experimentation and groundbreaking discoveries that fuel ambitious projects. As one JD manager indicated,

> ***"Our commitment to radical innovation is evident through our dedicated R&D facilities. These well-funded labs are equipped with cutting-edge technology, attracting top-notch scientists and researchers who push the boundaries of what is possible."***

Furthermore, resource availability facilitates technology partnerships with cutting-edge firms and startups, offering access to pioneering technologies and insights. According to one interviewee from TikTok,

> ***"Our partnerships with technology startups give us an edge in radical innovation. We have access to the latest AI and machine learning advancements, allowing us to stay at the forefront of the industry, competing with global players like Instagram."***

In incremental innovation, resource availability plays a central role by providing the stable foundation required for continuous improvement. Access to ample financial resources allows CIEs to allocate dedicated budgets for incremental innovation projects, ensuring a steady stream of resources committed to enhancing existing products, processes, and services. This approach ensures continual improvements to maintain and enhance their competitive edge. During an interview at Tencent, a senior executive said,

"We have a dedicated fund for incremental innovation. It is like having a treasure chest for innovation projects that enhance our current offerings. This resource allocation ensures that our teams have the financial backing they need to make consistent improvements as, for example, you can see WeChat consistently add more functions to make it a full-life scenario application."

Therefore, resource availability catalyses CIEs, amplifying their capacity to innovate on a grand scale. The access to substantial resources fuels their ambitions and enables them to convert them into groundbreaking and continuous innovations.

4.3.2.3 CEO's EL as Operational Efficiency

Operational efficiency is another pivotal factor in influencing innovation within CIEs popping up from interview. The drive to streamline business operations and enhance efficiency significantly motivates incremental and radical innovation. This motivator stems from the realisation that optimising internal processes can lead to increased resources and capacity for innovation. Many CIEs recognise that efficient operations create a conducive environment for innovation. By eliminating bottlenecks, reducing waste, and optimising workflows, these companies free up valuable resources that can be channelled into innovative endeavours. For example, Alibaba has embraced operational efficiency as a critical driver of innovation. An interviewee from Alibaba explained,

"Our commitment to operational efficiency is deeply ingrained in our culture. We believe we can allocate more resources to innovation by streamlining our business operations. This philosophy has guided our journey toward both incremental and radical innovation."

Incremental innovation often thrives where processes are well-defined and continuously optimised. CIEs can introduce incremental product, service, and operation improvements by fine-tuning existing processes and systems. This allows them to respond swiftly to changing market demands and enhance customer satisfaction. A senior manager at Tencent shared,

> ***"Our focus on operational efficiency has enabled us to iterate and enhance our products rapidly. Small, continuous improvements are at the core of our approach to innovation, ensuring that we remain competitive in a fast-paced market."***

Operational efficiency also contributes to radical innovation by freeing up the time and resources necessary for exploration and experimentation. When internal processes are well-optimised, CIEs can allocate human capital and financial resources to ambitious projects that push the boundaries of technology and industry norms. Meituan's experience illustrates this connection between efficiency and radical innovation. A senior manager at Meituan explained,

> ***"Our commitment to operational efficiency has allowed us to allocate resources for moonshot projects. These projects involve radical innovations that have the potential to disrupt entire industries. Without our focus on efficiency, these endeavours would not be feasible. Especially as food delivery service is one of our core products, we understand better than others the importance of operation efficiency."***

In conclusion, operational efficiency is a powerful motivator for both incremental and radical innovation within CIEs. These companies create a fertile ground for innovation

to flourish by streamlining business operations and optimising processes. Incremental improvements benefit from efficient workflows, while radical innovation gains momentum as resources become available for exploration. This motivator underscores the relationship between operational efficiency and innovation within the dynamic landscape of CIEs.

4.3.2.4 CEO's EL as Customer-Centricity

Customer-centricity is another driving factor for innovation as this study draw from interviews. Chinese consumers have become increasingly discerning and demanding, expecting innovative products and services. Organisations recognise that to remain relevant and capture market share, they must continuously innovate to meet customer expectations. An interviewee from JD explained,

> ***"Our customers' needs are evolving rapidly. We are driven to introduce innovations that cater to their changing preferences to retain their loyalty and stay competitive."***

This customer-centric approach emphasises aligning innovation efforts with customer demands, a key component of EL's focus on external orientation.

Many CIEs prioritise a customer-centric approach, acknowledging that it leads to innovative solutions that resonate with their user base. By actively listening to customer feedback, studying market trends, and staying attuned to changing preferences, these companies gain valuable insights that fuel innovation. For example, TikTok places a strong emphasis on customer-centricity. An interviewee from TikTok explained,

> ***"Our dedication to understanding our users' behaviour and preferences drives both incremental and radical innovation. We continuously adapt our***

features and content to meet the ever-evolving demands of our global audience."

Incremental innovation often thrives when CIEs respond swiftly to customer feedback and iterate on existing products or services. By addressing pain points and enhancing user experiences, these companies maintain their competitive edge and solidify their customer base. JD exemplifies this customer-centric approach. A senior manager at JD shared,

"Our customers' feedback is a valuable resource for innovation. We make incremental improvements to our platform based on their suggestions, ensuring that we provide a seamless and enjoyable shopping experience."

Additionally, actively involving employees in the innovation process fosters a culture of continuous improvement. An interviewee from Alibaba noted,

"We encourage our employees to share their ideas for incremental improvements. Often, it is our frontline staff who have the most valuable insights on how to enhance our products and services. Listening to their suggestions drives our incremental innovation efforts."

Customer-centricity fosters radical innovation by encouraging CIEs to explore novel solutions that address unmet needs or anticipate future trends. When organisations prioritise understanding their customers deeply, they can identify opportunities for groundbreaking innovations that have the potential to reshape industries. Alibaba's experience illustrates this connection between customer-centricity and radical innovation. A senior manager at Alibaba explained,

"Our commitment to being customer-centric has led us to develop innovative solutions that disrupt traditional business models. By anticipating our customers' needs, we have introduced services and platforms that have transformed the e-commerce landscape. As you may have heard, the original idea of Alipay is based on the 'trusted toolkit for the transaction is nowhere' from the customers' voice."

In conclusion, customer-centricity emerges as a potent motivator for both incremental and radical innovation within CIEs. The ability to meet evolving customer demands, whether through iterative improvements or groundbreaking solutions, fuels the innovation engine of these companies. This motivator underscores the profound link between understanding and serving customers and driving innovation within the dynamic world of CIEs.

4.3.2.5 CEO's EL as Employee Involvement

Drawing from the interview analysis, employee involvement is also a critical motivator for innovation within CIEs. These companies recognise that a culture of innovation and learning hinges on actively engaging employees in the creative process. As a result, fostering employee involvement is a significant driver for incremental and radical innovation. CIEs understand their employees are valuable sources of ideas, insights, and expertise. By involving employees in innovation, these companies tap into a wealth of potential innovations that can lead to transformative change. For example, Tencent places a strong emphasis on involving employees in innovation. An interviewee from Tencent shared,

"Our corporate culture encourages employees to participate actively in the innovation journey. We provide platforms for sharing ideas, collaborating across teams, and learning from each other."

Incremental innovation thrives when employees are empowered to contribute their ideas and insights to improve existing products or services. By fostering an atmosphere where employees are encouraged to identify inefficiencies, propose solutions, and experiment with new approaches, CIEs can drive continuous improvement. Meituan exemplifies this commitment to employee involvement. A senior manager at Meituan stated,

"Our employees play a crucial role in incremental innovation. They bring fresh perspectives and suggest practical enhancements to our services, which we readily implement to enhance customer experiences. For example, our delivery man can always provide feedback on optimising the process, and we thus can update the system daily or weekly."

Employee involvement also fuels radical innovation by nurturing a pursuing of experimentation, risk-taking, and exploration. When employees are encouraged to think beyond conventional boundaries and embrace innovative ideas, CIEs can embark on ambitious projects challenging the status quo. As a prominent technology company, Baidu provides an example of this approach. An interviewee from Baidu noted,

"Our encouragement of employee involvement extends to radical innovation. We encourage employees to propose visionary projects and support them in bringing these ideas to life. This has led to groundbreaking advancements in our technology offerings. Each year, we have a CEO

Fund of around 1 million to praise the best innovative idea inside the company."

In conclusion, employee involvement is a potent motivator for both incremental and radical innovation within CIEs. Fostering a culture of innovation and learning through active employee participation enhances these companies' ability to adapt, evolve, and drive innovation. This motivator underscores the profound connection between employee engagement and the innovation ecosystem of CIEs.

4.3.2.6 CEO's EL as Passion

Passion is also a catalyst that ignites the innovative spirit within CIEs that mentioned by many managers during the interviews. It is pivotal in motivating employees and leaders to pursue innovation vigorously, whether in incremental or radical innovation. At the heart of many CIEs is a deep-seated passion for their work and a relentless drive to make a difference. This passion drives innovation, pushing individuals and organisations to transcend limits and explore new horizons. For instance, TikTok thrives on the passion of its employees. An interviewee from TikTok expressed,

"Passion is in our DNA. It fuels our drive to create innovative features and content that resonate with users worldwide."

Passion's influence extends to both incremental and radical innovation. In the context of incremental innovation, passionate employees are more likely to invest time and effort in refining existing products or services. They take pride in delivering excellence and continuously seek ways to enhance customer experiences. Alibaba embodies this commitment to passion-driven incremental innovation. A senior manager at Alibaba shared,

"Passion is our secret ingredient for success. Our employees are passionate about exceeding customer expectations, which drives our continuous improvement efforts."

Regarding radical innovation, passion becomes a catalyst for audacious pursuits. It propels individuals and teams to challenge conventional norms and explore groundbreaking ideas. Passionate leaders inspire their organisations to take calculated risks and embark on ambitious projects. Tencent exemplifies this passion for radical innovation. An interviewee from Tencent stated,

"Passion is the driving force behind our audacious goals. We are not afraid to dream big and take bold steps to redefine industries through innovation."

In short, passion is a potent motivator within CIEs, nurturing a culture of relentless innovation. It transcends the boundaries of incremental and radical innovation, driving employees and leaders alike to push the envelope and create transformative change. This motivator underscores the pivotal role of passion in propelling CIEs toward innovation excellence.

4.3.2.7 CEO's EL as Market Competitiveness

Competitive pressure is a prominent motivator for innovation, which most mentioned when asking the drivers for their 'need of innovation'. Chinese enterprises operate in highly competitive markets where rivals continually introduce new products and services (Porter, 1979). Organisations must engage in ongoing, incremental improvements to their offerings to maintain market share and customer loyalty. An interviewee from JD highlighted,

"Our industry is fiercely competitive, with new players entering the market regularly. Incremental innovation is our way of staying ahead. It helps keep our products and services relevant and attractive to customers."

The competitive landscape and industry dynamism act as catalysts, compelling these enterprises to continuously innovate to maintain their market positions and seize new opportunities. Interviews revealed that the competitive nature of the Chinese market exerts pressure on CIEs to innovate or risk being left behind. As one senior manager from Alibaba stated,

"In our industry, if you do not innovate, you stagnate. It is a survival imperative."

Moreover, the severe competitiveness, characterised by rapid technological advancements and evolving consumer preferences, compels CIEs to innovate proactively. In today's fast-paced business environment, markets are subject to rapid changes in customer preferences, emerging technologies, and competitive dynamics. To remain agile and meet evolving market demands, organisations must continuously innovate, albeit incrementally. An interviewee from Meituan emphasised,

"Our industry is highly dynamic, with shifting customer expectations. Incremental innovation allows us to respond to market changes swiftly. It enables us to introduce enhancements and optimisations to our existing products and services, keeping us competitive through a flatter team, which makes decisions faster than rivals."

Besides, the intensity of competition motivates organisations to continuously seek ways to differentiate themselves and gain a competitive edge (Porter, 1980). This drive to

outperform rivals pushes companies to explore unconventional and disruptive innovations. A senior manager from Baidu highlighted this aspect, saying,

> ***"The fierce competition in our industry compels us to stay ahead of the curve. We cannot afford to be complacent. We are constantly looking for radical innovations to maintain our market leadership."***

The pressure exerted by rivals fuels the pursuit of radical innovation, substantiating its importance within CIEs.

4.3.2.8 CEO's EL as Response to Government Initiatives

Government initiatives and policies also play a significant role in motivating innovation among Chinese enterprises. The Chinese government has been actively promoting innovation as a driver of economic growth and exposure to global (Petti et al., 2021). Various policies, incentives, and funding support are provided to encourage organisations to embark on ambitious innovation projects. One interviewee from Bytedance remarked,

> ***"Government support in the form of subsidies and favourable policies has been a substantial motivator for us to pursue innovation. It reduces financial constraints and signals that innovation is a national priority."***

Government initiatives serve as a catalyst, aligning the interests of CIEs with national innovation goals.

Simultaneously, government initiatives have facilitated radical innovation by fostering collaboration between CIEs and international partners. Policymakers recognise that groundbreaking innovations often emerge from converging diverse ideas and technologies.

Hence, they encourage CIEs to seek partnerships with global counterparts, often leading to disruptive and transformative innovations. TikTok, for instance, stands as a testament to how government-supported global exposure can drive radical innovation. A senior manager at TikTok stated,

> ***"Our collaborations with international tech firms and startups have resulted in revolutionary features and functionalities. These initiatives have opened new doors for us to explore groundbreaking innovations, all while adhering to government directives."***

Chinese government policies have encouraged CIEs to venture beyond domestic boundaries, seeking international markets and global exposure. This policy-driven impetus has led companies to embrace innovation in all its forms, both incremental and radical, to compete and thrive globally. For instance, the government's support for tech startups and CIEs has translated into incentives, subsidies, and supportive regulations that create an innovative environment. These policies empower CIEs to embark on incremental innovations, fine-tuning their products and services to cater to diverse international markets. The policies enable them to adapt to the ever-evolving global landscape and meet the expectations of a broader customer base. During our interview, one senior executive from Meituan shared,

> ***"Government incentives have played a significant role in encouraging us to explore incremental innovations. We are constantly refining our platforms and services to meet the unique demands of various global markets. These incentives catalyse our innovation journey."***

In conclusion, government initiatives serve as a dynamic motivator for both incremental and radical innovation within CIEs. These interview responses provide insights into how government-driven policies are a driving force behind innovation efforts. By fostering global exposure and innovation, government initiatives have reshaped the landscape of CIEs, propelling them to excel in both incremental improvements and radical innovations that define the industry's competitive edge.

Summary of Entrepreneurial Leadership's Pursue to Innovation

In this part, this study explored the multifaceted factors that serve as potent motivators for innovation within CIEs. These factors, each playing a distinctive role in shaping the innovation landscape, offer valuable insights into the driving forces behind innovation performance. The synthesis of these motivating factors underlines the complex mechanism of innovation within CIEs, providing a systematic understanding of what drives them towards both incremental and radical innovation.

CEO's entrepreneurial leadership stands out as a core driver, permeating the organisation's culture and setting the tone for innovation by integrating all the other drivers. These diverse motivating factors underscore the influence between entrepreneurial leadership and innovation performance, shedding light on the myriad avenues through which innovation thrives within CIEs. Besides the core driver, as entrepreneurial leadership in these studies, the study has identified that the drivers drive innovation with a basis of the CEO's entrepreneurial leadership.

Resource Availability emerged as a pivotal catalyst, empowering CIEs to pursue audacious innovation goals. This encompasses financial resources, technological infrastructure, and a talented workforce that equips them with the capacity to invest in

innovative endeavours. Furthermore, government initiatives have played a crucial role, driven by policies that promote global exposure and foster an environment conducive to innovation. Operational Efficiency signifies the streamlining of business operations, optimising processes, and enhancing the efficiency of day-to-day activities, thereby creating room for innovation. Customer-centricity highlights the significance of meeting evolving demands by aligning innovation efforts with the ever-changing needs and preferences of the consumer base. Employee Involvement signifies cultivating a culture that champions innovation and learning, with active participation from employees across all levels. Passion is identified as a powerful catalyst, igniting the flames of innovation within CIEs and underpinning their drive towards both incremental and radical innovation.

In this study, the qualitative study also identified several factors that contribute to innovation as channels within CIEs. These factors are complex and interrelated, and this study will explore them in detail in the following sections.

4.3.3 Perception of CIEs on Channels of Radical Innovation and Incremental Innovation

In this section, the study will explore the perceptions of CIEs regarding the channels through which radical and incremental innovation are pursued. The qualitative exploration aims to uncover the various avenues and mechanisms through which CIEs navigate their innovation journey under entrepreneurial leadership's influence. Understanding how CIEs perceive and harness these channels is essential to comprehending the forces that drive innovation within these organisations, which aims to shed light on the specific strategies and approaches CIEs employ as they navigate the complex landscape of radical and incremental innovation.

The qualitative investigation enables the study to glean insights directly from industry experts and leaders within these organisations to show what and how the mediators work as channels between EL and innovation. Through their perspectives, the research gains a deeper understanding of the factors, strategies, and aspects contributing to the successful pursuit of innovation through EL. By exploring these channels, the study can better appreciate how EL serves as a core driving force behind the innovative endeavours of CIEs. This section comprehensively explores the channels that serve as conduits for radical and incremental innovation within CIEs. It sets the stage for a detailed examination of the specific mechanisms and factors that underpin the innovation processes driven by entrepreneurial leadership.

4.3.3.1 Innovation Culture as Ecosystem of Creativity and Progress

Within the quest for innovation, CIEs have recognised the importance of nurturing an innovation culture. This entails establishing an ecosystem within their organisations that fosters creativity, encourages experimentation, and propels a relentless pursuit of progress. Drawing insights from interview responses, the study profoundly understands how CIEs perceive and actively cultivate innovation culture as a fundamental conduit for radical and incremental innovation.

Through the interviews, it becomes evident that CIEs are committed to creating an environment where innovation is not merely endorsed but deeply ingrained in the organisation's core values. This innovation culture transcends individual contributions and evolves into a collective endeavour where all employees are empowered to contribute novel ideas, experiment with pioneering concepts, and challenge established norms. One senior manager from Tencent underscores the profound significance of an innovation culture by stating,

"Innovation is not confined to our R&D department, it is a shared responsibility across the entire organisation. We encourage our employees to explore innovative approaches and share their insights, fostering a culture where groundbreaking ideas can emanate from any company corner."

These synthesised responses emphasize the pivotal role of innovation culture as a primary channel for radical and incremental innovation. They underscore how CIEs emphasize generating groundbreaking ideas and continuously refining and improving existing processes and products. In this view, innovation culture is an abundant source of creativity that supports and propels entrepreneurial leadership, ultimately culminating in transformative outcomes.

In the context of radical innovation, innovation culture becomes a channel through which CIEs empower their employees to challenge the status quo and explore uncharted territories. The interviews reveal that CIEs encourage a culture of fearlessness, where employees are emboldened to question conventional practices and ideate audacious solutions. One senior manager at Alibaba exemplified this ethos, commenting,

"Our innovation culture instils a sense of daring exploration. We actively seek out employees willing to take risks and explore unconventional paths to innovation."

Within this culture, entrepreneurial leaders champion bold initiatives and breakthrough ideas, fostering a climate where employees are inspired to transcend limitations.

For incremental innovation, innovation culture is a channel for promoting continuous improvement and optimisation. The interviews underscore that CIEs relentlessly focus on refining existing products and processes through innovation culture practices. This entails nurturing an environment where employees are encouraged to seek minor, incremental enhancements that collectively lead to substantial improvements. A senior manager from Baidu shared,

> ***"Innovation culture here is about making every aspect of our products better every day. We believe that numerous small improvements can result in significant progress."***

This perspective illustrates how innovation culture propels incremental innovation by instilling a mindset of perpetual refinement.

This approach closely aligns with the quantitative findings, highlighting the importance of factors related to innovation culture in driving incremental innovation within CIEs. The synthesised responses shed light on how innovation culture serves as the breeding ground for these practices, empowering entrepreneurial leaders to harness their workforce's collective creativity and dedication to pursue incremental innovations systematically.

In conclusion, innovation culture is a dynamic channel through which CIEs drive radical and incremental innovation. The insights from interviews underscore that innovation culture empowers employees to challenge boundaries and embark on audacious journeys to pursue radical innovation. Simultaneously, it encourages a culture of continuous improvement and optimisation, fostering incremental innovation. These findings not only complement the quantitative results but also provide a nuanced understanding of the

mechanisms through which innovation culture mediates between entrepreneurial leadership and innovation performance within CIEs.

4.3.3.2 Decentralization Structure as Structural Empowerment

The decentralisation structure in CIEs is an important organisational feature that influence innovation through entrepreneurial leadership. From interviews with senior managers across leading CIEs, it becomes evident that decentralisation is a crucial driver of innovation at these organisations. By delegating decision-making authority and fostering operational autonomy at various levels, decentralisation empowers employees to actively shape strategic direction, product development, and innovation initiatives. One senior manager at Tencent aptly expressed this idea:

> ***"Our decentralised structure allows for swift decision-making and empowers teams to drive innovation from within. It nurtures an environment where consistent innovation can originate at any level, not just from top management."***

This perspective aligns with the quantitative findings, which reveal a positive correlation between factors related to decentralised decision-making and innovation.

The interviews underscore the pivotal role of entrepreneurial leadership in championing decentralisation structure. Entrepreneurial leaders within CIEs are seen as advocates for decentralised decision-making and are instrumental in driving its adoption. One senior manager from Baidu noted,

> ***"Our CEO has been a strong proponent of decentralisation. He believes in empowering teams and trusts them to make decisions that align with our***

innovation goals, such as cancelling so many layers to make the structure flat last year."

This highlights how entrepreneurial leaders actively promote and nurture a decentralised organisation, in where teams are encouraged to take ownership of their projects, seek continuous improvements, and optimise processes. A senior manager from Alibaba aptly agreed with this, stating,

"Decentralisation is about entrusting teams with end-to-end responsibility. This ownership mindset drives teams to seek incremental innovation and process optimisation areas actively."

Such an approach aligns with the quantitative findings, emphasising the significance of factors related to decentralization in driving incremental innovation. Furthermore, decentralisation enhances agility and adaptability within CIEs. Allowing teams to respond swiftly to market dynamics and customer feedback enables iterative development and fine-tuning of products and services. This iterative approach to innovation is particularly relevant in the fast-paced and dynamic landscape of the internet industry.

However, the story takes a different turn regarding highly radical innovation. The interviewees explained that radical innovation often requires a more centralised approach, with a dedicated focus on cross-functional collaboration and resource allocation. CEOs frequently establish specialised teams that report directly to top leadership to spearhead radical innovation initiatives. A senior manager at Alibaba aptly described this approach:

"For radical innovation, we establish dedicated teams led by senior executives, as Damo College. This centralised effort allows us to pool resources, expertise, and oversight where needed."

In conclusion, the decentralisation structure plays a multifaceted role within CIEs, acting as a catalyst for incremental innovation. It enhances adaptability, all essential components of a thriving innovation ecosystem. These findings complement the quantitative results and offer a deeper understanding of how decentralisation structure mediate between EL and innovation performance within CIEs.

4.3.3.3 Knowledge Sharing as A Coin but with Two Sides

The prevailing belief within the innovation literature has long been that knowledge sharing (KS) acts as a unidirectional mediator as discuss in previously Chapter two, positively enhancing radical and incremental innovation. However, the qualitative interviews with senior managers from various CIEs challenged this assumption, unveiling a more complex and multifaceted relationship that disrupts conventional wisdom.

The interviews unveiled that KS can be a paradoxical deterrent to radical innovation within CIEs. The paradox is that a well-established knowledge sharing while may inadvertently hinder the pursuit of groundbreaking innovations. One senior manager from Bytedance shared,

> ***"We are committed to sharing best practices, which often leads us to rely on tried-and-true methods. It can create a comfort zone and make people less willing to explore uncharted territories."***

This argument was echoed by another interviewee from Meituan, who explained,

> ***"While knowledge sharing improves efficiency, it can stifle the audacity required for radical innovation. When you have established solutions at your fingertips, there might be less motivation to take risks."***

In essence, knowledge sharing led to the preference for existing methods and a hesitance to venture into the unknown. This unexpected discovery sheds new light on the influence between KS, radical innovation, and entrepreneurial leadership. As one senior manager from Baidu expressed:

> ***"Robin (CEO of Baidu) often encourages knowledge sharing to foster a learning culture. However, he also understands that when it comes to radical innovation, the audacity to break boundaries sometimes requires independent, unconventional thinking. This is why they maintain a delicate balance."***

Another senior manager from Meituan added,

> ***"There is a recognition that sharing too much knowledge might lead to a groupthink mentality.***

Contrary to the anticipated mediation of KS between EL and incremental innovation, the qualitative interviews unveiled a more complex interplay. The findings suggest that EL's direct influence on incremental innovation might overshadow any mediating role played by knowledge sharing. Senior managers shared their experiences: One senior manager from Tencent explained,

> ***"The direct influence of our entrepreneurial leaders is palpable regarding incremental innovations. They encourage continuous improvement, and their vision sets the tone for product enhancements."***

Similarly, a senior manager from TikTok added,

"We observe the CEO's strong involvement in shaping product features and guiding incremental enhancements. Knowledge sharing complements this but does not necessarily mediate the process."

In this context, EL's direct involvement is the driving force behind incremental innovation, rendering the mediation by KS a secondary influence. This nuance reflects the idea that while KS is valuable for fostering learning and knowledge dissemination, it does not necessarily mediate the robust and direct influence of EL on incremental innovation.

Contrary to conventional expectations, KS plays a nuanced role within this context. Since EL strongly drives incremental innovation directly, knowledge sharing complements this influence with limit. The interviews unveil a caution among CEOs regarding excessive knowledge sharing, as it may inadvertently stifle radical innovation. This paradox offers a fresh dimension for future research, emphasising the dynamic and multifaceted nature of the KS's role between EL and innovation.

4.3.4 Factors of External Moderators on Internal Channels

In this section, the study explores the moderators encountered by CIEs in their pursuit of both radical and incremental innovation. The qualitative narrative that unfolds provides a candid portrayal of the external influencing factors that CIEs confront and their strategies to navigate the complex innovation terrain. Though independently unearthed through text analysis, these factors intersect with the moderators underpinning the quantitative investigation. This intersection alignment highlights the dynamic interplay between entrepreneurial leadership (EL) and its influence on innovation culture, decentralisation structure, and knowledge sharing within CIEs.

By delving into the qualitative data, the study hopes to shed light on the organic nature of these challenges and their alignment with the quantitative exploration. This section forms a bridge between the empirical findings and the real-world experiences of CIEs leaders, offering a comprehensive perspective on the challenges they face and the adaptive strategies they employ in the ever-evolving landscape of CIEs.

4.3.4.1 Technological Turbulence as Motivator of Chasing-up

In the ever-evolving field of CIEs, technological turbulence emerges as a dynamic force, a relentless tide of change that can either be harnessed as a source of innovation or viewed as a challenge too daunting to conquer. Through the in-depth qualitative interviews with industry experts, this study has ventured deep into the heart of technological turbulence and uncovered the nuanced ways it influences CIEs' innovation journeys.

Technological turbulence, characterised by its unpredictable nature and rapid shifts, depends on an organisation's ability to adapt swiftly. As one senior manager from Tencent noted,

> ***"In our industry, technology is the heartbeat of innovation. It changes rapidly, and we must be agile to keep up. This means keeping an eye on emerging technologies and fostering a mindset of continuous adaptation among our teams."***

However, by their very nature, entrepreneurial leaders exhibit a strong propensity to embrace change and navigate uncertainty. This inherent trait of EL positions them well to deal with technological turbulence. As noted in the interviews, EL often thrives in technology dynamic environments, viewing turbulence as an opportunity rather than a hindrance. One senior manager from Baidu stated,

"CEO's ability to thrive amidst change is what sets them apart. They drive innovation because they are comfortable with the unpredictable."

This level of comfort with change means that the moderating effect of TT on innovation culture may be less pronounced when EL is involved.

However, the qualitative interviews also shed light on an interesting nuance. While adaptability is crucial, it is not a silver bullet. Some CIEs employ other strategies to complement adaptability in technological turbulence. One such strategy is restructuring organisational hierarchies to accommodate rapid decision-making and innovation. A senior manager at JD articulated this:

"To harness the power of technology, we have had to reevaluate our organisational structure. Decentralisation has allowed us to be more responsive to tech-driven opportunities and challenges. It is about empowering our teams to act swiftly."

This perspective highlights the multifaceted response of CIEs to technological turbulence. They embrace adaptability, restructure hierarchies, and cultivate knowledge-sharing mechanisms as they navigate this formidable challenge. This deepens the understanding of the nuanced interplay between technological turbulence, EL, and innovation culture.

In conclusion, the qualitative exploration of technological turbulence within CIEs provides a holistic perspective on how this turbulent force influences CEO's entrepreneurial leading choices. In technological turbulent environment, entrepreneurial CEOs tend to respond to the turbulence by adopting strategies like organisational restructuring and knowledge sharing, to complement and enhance their innovation efforts.

4.3.4.2 Environmental Dynamism as Motivator of Agility

Environmental dynamism is a defining characteristic in the fast-paced world of CIEs. It is a landscape marked by rapid shifts in market conditions, competition, and regulatory frameworks, where CIEs must navigate the unpredictable currents. Through extensive qualitative interviews, this study delved deep into how environmental dynamism, which from more of market perspective as discussed previously in Chapter Two, shapes the innovation endeavours of these enterprises, shedding light on both the challenges and opportunities it presents.

One resounding theme that echoes through the interviews is the necessity for agility. CIEs operating in dynamically changing environments must be able to pivot swiftly in response to evolving circumstances. One senior manager from Bytedance noted,

> ***"Our industry is in a constant state of flux. We need to be quick on our feet, adapting to changes in user preferences, market trends, and even regulatory shifts."***

This adaptability aligns with the principles of innovation culture, emphasising openness to change and a willingness to experiment. However, it also suggests that CIEs have already integrated the essence of IC into their organisational DNA, making the moderating role of ED less pronounced. In other words, the companies' natural inclination toward innovation culture, driven by their need to thrive in dynamic environments, could diminish the moderating influence of ED.

The qualitative study further reveals insights into how environmental dynamism influences the relationship between EL and DS. A senior manager from JD expressed this perspective:

"Our industry evolves rapidly, and we need to make quick decisions. Decentralisation is our way of ensuring that decisions are made at the right levels to respond swiftly."

ED catalyses decentralisation within CIEs, prompting them to delegate decision-making authority to various teams and departments. This strategic move enhances their ability to adapt to external changes efficiently. As a result, ED strengthens the connection between EL and DS, necessitating a decentralised decision-making approach.

Moreover, in dynamic industries, knowledge sharing becomes paramount for CIEs to stay competitive when facing external market dynamism. The interviews highlight a strong knowledge sharing within these organisations, where information, insights, and best practices flow freely in the dynamic environment. A senior manager from Tencent emphasised the significance of knowledge sharing, stating,

"In our industry, when facing a dynamic external market, you need to stay informed and collaborate. Knowledge sharing is how we do that, we tend to keep all our product managers sense well with the market on the same page. Because of that, we have an independent department to collect information from market and disseminate to all of the organization."

In conclusion, this study highlights the significant role played by environmental dynamism in shaping the moderation role on organizational innovation channels in CIEs. The research sheds light on how environmental dynamism influences the relationship between entrepreneurial leadership and knowledge sharing, with decentralization emerging as a strategic response to navigate the rapidly evolving industry.

4.3.4.3 Market Orientation as Navigator to Customer Needs

Market orientation is a crucial facet of the innovation landscape within CIEs. The interviews unveiled a compelling narrative about how EL directly influences IC within these organisations. As one senior manager at Tencent pointed out,

> ***"Our CEO's vision and entrepreneurial spirit are deeply ingrained in our culture. It drives us to embrace innovation as a way of life."***

These sentiments were echoed across multiple interviews, highlighting the powerful and direct connection between EL and IC. Additionally, interviews revealed that MO played a crucial role, but its influence was more independent than moderating between EL and IC. MO was found to be instrumental in keeping CIEs attuned to market shifts and customer needs. A senior manager at Baidu noted,

> ***"Our market-oriented approach ensures that we are always responsive to customer demands and market changes."***

MO and EL are complementary forces, contributing to a dynamic and innovative organisational culture. According to a senior manager from Alibaba,

> ***"Our CEO's entrepreneurial leadership sets the tone, and our market-oriented strategies align seamlessly. It is not about moderating the other but more about a harmonious coexistence."***

This insight reflects the combined influence of factors within CIEs. While MO might not emerge as a direct moderator on IC, its influence is integral to the broader innovation landscape. The qualitative findings emphasize that these factors often work synergistically, reinforcing the innovation culture rather than interacting in a linear, moderating fashion.

Furthermore, the interviews found market orientation extends its influence on decentralisation structures within CIEs. As one senior manager from Baidu aptly stated,

> ***"To be market-oriented, we have empowered our teams to be closer to the market. Decentralisation allows us to respond swiftly to market changes. Our regional teams are the first to spot trends and adapt accordingly."***

This interview perspective echoes the moderation effect of the decentralisation structure identified in the quantitative analysis.

However, this is lack of evidence to illustrate the moderation role of MO on KS. One plausible explanation for the absence of a moderating effect between entrepreneurial leadership (EL) and knowledge sharing (KS) is rooted in the solid knowledge-sharing prevalent in many CIEs. One senior manager from Tencent stated,

> ***"Our company has always valued knowledge sharing. It is part of our DNA. We encourage it at all levels."***

This commitment to openness, collaboration, and continuous learning may be deeply ingrained in the organisational policies of these CIEs. The leadership style of EL may align naturally with this, as noted by another interviewee from Baidu:

> ***"Our CEO encourages us to share knowledge and ideas. It is part of his leadership approach."***

In organisations where employees are already inclined to share knowledge, the influence of MO as a moderator becomes less pronounced, as EL is already driving knowledge-sharing practices effectively. Additionally, market orientation primarily focuses on understanding and responding to customer needs and market dynamics. It may not

directly address internal processes like knowledge sharing. Therefore, the influence of MO on knowledge sharing, particularly in the context of EL, might be indirect. EL might exert more direct influence on knowledge-sharing practices, diminishing MO's moderating effect, as a senior manager from Alibaba emphasised:

> ***"Our CEO's entrepreneurial leadership encourages us to share knowledge, and we believe it is vital for innovation."***

Through these qualitative findings, the study provides a comprehensive understanding of how market orientation permeates and shapes the organisational channels of CIEs, providing further depth to the research framework.

4.4 Summary of Findings

The mixed method approach used in this study has produced consistent and convergent results, enhancing the robustness and credibility of the findings. Qualitative data from in-depth interviews with senior managers provided critical insights into the factors influencing entrepreneurial leadership and innovation within Chinese Internet Enterprises (CIEs), while quantitative data from a comprehensive survey revealed statistical relationships that aligned with these qualitative findings. Both methods independently highlighted the crucial role of entrepreneurial leadership in driving innovation within CIEs and offered context-specific insights into the mechanisms of this influence. The findings validated most of the established hypotheses and uncovered unexpected context-related results, significantly bolstering confidence in the study's outcomes. The triangulation approach facilitated robust interpretations and enabled hypothesis testing and development, contributing to higher confidence in the conclusions. For a detailed summary of the triangulation study findings, refer to Table 4.15.

Table 4.15: Summary of the Mixed Method Findings

Quantitative	Qualitative Insights
H1a: EL -> RI (Positive)	Entrepreneurial CEOs actively foster out-of-the-box thinking and encourage RI.
H1b: EL -> II (Positive)	Entrepreneurial leadership motivates incremental innovations as CEOs seek consistent updates of the products to meet market needs.
H2: EL -> IC (Positive)	Entrepreneurial leadership motivates innovation culture.
H3a: IC -> RI (Positive)	A robust innovation culture encourages radical innovation by aligning employees' shared goals of achieving breakthroughs.
H3b: IC -> II (Positive)	A robust innovation culture encourages incremental innovation by aligning employees' shared goals of achieving consistent growth.
H3c: EL -> IC -> RI (Positive)	Entrepreneurial leadership influences radical innovation by nurturing a culture prioritising creativity and risk-taking.
H3d: EL -> IC -> II (Positive)	Entrepreneurial leadership drives incremental innovation through an innovation culture emphasising consistently upgrading through creativity.
H4: EL -> DS (Positive)	Entrepreneurial CEOs decentralise the organisational structure.
H5a: DS -> RI (No Sig.)	The decentralisation structure does not directly influence radical innovation because the most radical ones are always directly led by CEOs.
H5b: DS -> II (Positive)	Decentralisation structure positively influences incremental innovation since the structure supports a faster response to customers and makes information flow smoothly.
H5c: EL -> DS -> RI (No Sig.)	Entrepreneurial leaders always lead the most radical ones directly.
H5d: EL -> DS -> II (Positive)	Entrepreneurial leadership encourage consistent upgrades through a decentralised organisation and makes things happen more smoothly.
H6: EL -> KS (Positive)	Entrepreneurial CEOs tend to prioritise knowledge sharing to enhance their innovative capabilities.
H7a: KS -> RI (Negatively Sig)	Knowledge sharing may hinder out-of-box thinking.

Table 4.15 continued

H7b: KS -> II (No Sig.)	EL and IC plays a more important role on promoting II.
H7c: EL -> KS -> RI (Negatively Sig)	Knowledge sharing may hinder out-of-box thinking.
H7d: EL -> KS -> II (No Sig.)	CEO influence II directly and through IC.
H8: TT x EL -> IC (No Sig.)	Technological turbulence interacting with entrepreneurial leadership does not directly affect innovation culture. Entrepreneurial leaders already have a high sense of building IC.
H9: TT x EL -> DS (Positive)	Entrepreneurial leaders always tend to deal with the challenge by encouraging a more decentralised structure.
H10: TT x EL -> KS (Positive)	When technological turbulence increases, entrepreneurial leaders tend to increase knowledge sharing to make information updates timely.
H11: ED x EL -> IC (No Sig.)	Entrepreneurial leaders already have a high sense of building IC.
H12: ED x EL -> DS (Positive)	In a more dynamic environment, entrepreneurial leaders encourage organisations to flatten the structure to face consistent changes through a smooth information flow.
H13: ED x EL -> KS (Positive)	In a more dynamic environment, entrepreneurial leaders tend to encourage KS to let employees know up-to-date information and knowledge throughout the organisation.
H14: MO x EL -> IC (No Sig.)	IC may be directly influenced more by entrepreneurial leadership from CEOs.
H15: MO x EL -> DS (Positive)	When more market-oriented, entrepreneurial leaders encourage decentralised structure to respond to customer needs faster.
H16: MO x EL -> KS (No Sig.)	KS is always created directly by entrepreneurial leaders' innate tendency to build.

4.5 Summary of Chapter

Given the current landscape of entrepreneurial leadership, particularly within the internet industry in China, and considering the prevailing economic and market conditions, competition, and the challenges posed by certain Western countries, EL has been driven to pursue and engage in innovation activities. This chapter has made a concerted effort to

thoroughly highlight the outcomes of the quantitative and qualitative studies conducted in this research. From the gathered data, the study systematically analysed entrepreneurial leadership's role in driving innovation of CIEs and discuss the mediating and moderating factors that mediate and moderate these relationships.

Particularly, the findings of the triangulation study more clearly address significant questions within EL, which have received limited attention among leadership scholars in the past. These questions include (1) the driving forces behind innovation initiatives and activities undertaken by CIEs, (2) the channels through which EL promotes innovation initiatives, and (3) the key moderators in the relationship between EL and organisational channels in CIEs. A thorough examination and analysis of these findings should benefit the CEOs of CIEs, the entire industry, and all companies globally pursuing innovation. As the study moves forward, the final chapter will investigate the implications of the quantitative and qualitative findings, connecting them to previous research on entrepreneurial leadership and innovation performances. As the final chapter, chapter 5 will provide overall discussion, implications, and opportunities identified for future research of this study.

CHAPTER 5

DISCUSSION, CONCLUSION AND FUTURE RESEARCH

5.1 Introduction

As stated in the previous chapters, the field of entrepreneurial leadership is relatively new, and as such, it seeks a more detailed understanding of its boundaries, orientations, and influences on innovation. Through the study in Chapter Four, the findings stemming from both quantitative and qualitative data research has been presented. Consequently, this chapter is dedicated to a comprehensive discussion of these findings, from where the study seeks the answers for the research questions. The objective is to systematically analyse the findings acquired through both research methods, thereby provides theoretical insights and practical suggestions.

The discussions and implications will be presented in an organised sequence in this chapter, including discussions on assessment of the research hypotheses and their implications, along with the contributions and recommendations they bring to the field of study. The framework will be further revised based on these recommendations. Finally, the chapter will conclude with a discussion of the study's potential directions for future research based on the limitations identified through this study.

5.2 Discussion of Quantitative Findings

5.2.1 Entrepreneurial Leadership as Predictor of Innovation Performance of Firms

Entrepreneurial leadership has emerged as a pivotal driving force, as presented by this study’s findings derived from both quantitative and qualitative studies conducted in the preceding chapter. The exhibition of risk-taking and visionary thinking, coupled with the

promotion of experimentation with diverse ideas, underscores the significant role played by CEOs in entrepreneurial leadership, notably in steering innovation in both radical and incremental dimensions.

Moreover, this research indicates that this influential effect can be harnessed through organizational elements such as innovation culture, knowledge sharing and decentralized structure. However, the observed channelling effect reveals diverse perspectives, deviating from this study's initial hypotheses. Consequently, the study helps to acquire a more nuanced understanding of how to propel innovation in CIEs, recognizing that several presumed driving forces may, under certain conditions, transform into hindering forces. This complexity adds depth to the landscape of innovation drives in CIEs, underscoring the value of the study.

Moving forward, the study will delve into the details of these effects, examining their influence on relationships to gain a comprehensive understanding of how entrepreneurial leadership contributes to both radical and incremental innovation, respectively.

The Effect of EL on Radical Innovation Performance (H1a)

The literature on entrepreneurial leadership has consistently underscored the pivotal role of visionary and risk-embracing leadership styles in catalysing radical innovation (Mehmood et al., 2021). CEOs who embody entrepreneurial leadership traits set the stage for fostering an environment conducive to radical innovation. They inspire their employees to explore beyond conventional boundaries, take calculated risks, and pursue groundbreaking ideas. This alignment between this study's findings and past research is noteworthy, as it further substantiates the idea that entrepreneurial leaders who willingly

embrace calculated risks are more likely to steer their organisations toward breakthrough innovations (Arshi and Burns, 2018b, Liu et al.).

This study underscores the critical role of entrepreneurial leadership in driving innovation outcomes, with CEOs acting as catalysts to ignite a culture of creativity and innovation, leading to groundbreaking developments. These insights are particularly valuable for organizations seeking to drive radical innovation by fostering entrepreneurial leadership among top executives. The study draws on insights from senior managers, highlighting how a CEO's entrepreneurial mindset—marked by challenging the status quo and taking calculated risks—motivates the team to push boundaries and pursue bold innovations. This mindset not only reinforces the statistical findings but also provides a deeper understanding of how entrepreneurial leadership influences radical innovation, emphasizing the CEO's role in nurturing an innovative culture.

Discussions above highlight the significance of entrepreneurial leadership in driving radical innovation performance within CIEs, shedding light on the role of visionary and risk-embracing leaders in shaping groundbreaking innovations. It emphasises the practical implications for organisations striving to foster audacious creativity. It highlights how such leadership qualities inspire employees to think beyond boundaries and pursue groundbreaking ideas.

The Effect of EL on Incremental Innovation Performance (H1b)

The past studies on entrepreneurial leadership consistently emphasize the role of EL in fostering innovation, regardless of whether it is radical or incremental (Pauceanu et al., 2021b). CEOs with entrepreneurial leadership traits create an environment conducive to nurturing innovative ideas. They inspire their teams to explore new approaches, embrace

calculated risks, and continuously improve existing processes. This alignment with existing research signifies that entrepreneurial leader, unafraid of calculated risks, are more likely to drive innovation across the spectrum, from groundbreaking inventions to incremental enhancements.

The findings further underscore the critical role of entrepreneurial leadership in enhancing innovation outcomes. CEOs with these leadership traits serve as a core driver for cultivating continuous improvement and innovation, which subsequently contributes to the development of incremental innovations. This insight carries practical significance for organisations aiming to foster innovation across various scales by promoting entrepreneurial leadership qualities among their top executives. Through the interviews as shown in findings, the CEO's attention to detail and commitment to continuous improvement proves infectious, influencing the organization to identify and capitalize on even the smallest enhancements. Additionally, the CEO's focus on incremental innovation is evident in operational processes, emphasizing the refinement and optimization of every aspect. These qualitative insights complement quantitative results, highlighting the CEO's instrumental role in nurturing continuous improvement and incremental innovation. They demonstrate how entrepreneurial leadership behaviours translate into tangible outcomes within the organization.

By combining quantitative analysis with qualitative insights, a holistic understanding of the pivotal role of EL in driving incremental innovation within Chinese enterprises has been explained in deep. This multi-method approach strengthens this research to draw meaningful conclusions and offers a comprehensive perspective on the complex dynamics of leadership and innovation. These findings highlight how CEOs with entrepreneurial

leadership traits foster an organisation of continuous improvement and innovation, where employees are motivated to contribute to incremental innovations that collectively enhance the firm's competitiveness and growth. This also aligns with past research indicating that entrepreneurial leaders promote continuous upgrading of products and services (Amabile et al., 1996).

5.2.2 Mediation Effect of Organisational Factors between Entrepreneurial Leadership and Innovation Performance

Within CIEs, the confluence of internal organisational dynamics, entrepreneurial leadership, and innovation performance creates a compelling narrative. This section will dig into the mediation effects of organisational internal factors on the relationship between entrepreneurial leadership and innovation performance. Building upon the findings in the preceding sections, this part aims to unravel the mechanisms governing this relationship. As a driving force behind innovation, entrepreneurial leadership is further explored in its interaction with internal factors like knowledge sharing, decentralisation structure, and innovation culture.

This section offers an in-depth discussion of each facet of this mediation process. Through empirical findings and qualitative insights, it uncovers the multifaceted nature of these interactions, shedding light on the pathways through which entrepreneurial leadership ignites innovation within CIEs. These insights hold the potential to shape not only the understanding of this dynamic context but also to guide strategic decisions in the ever-evolving landscape of CIEs.

Effect of EL on Innovation Culture (H2)

The influence of leadership on organisational culture has long recognised that leaders, especially those with entrepreneurial traits, play a central role in shaping the culture of innovation within firms (Mehmood et al., 2021). CEOs with entrepreneurial leadership behaviours set the tone for innovation by encouraging employees to be creative, take risks, and challenge the status quo. This directly contributes to innovative culture development (Mehmood et al., 2019). These behaviours align with established research, which suggests that leaders who encourage calculated risk-taking and innovative thinking are more likely to cultivate an organisational culture that fosters creativity and problem-solving (Hamdan and Alheet, 2020). Through the study, respondents mentioned that the CEO's entrepreneurial mindset is contagious, challenging individuals to think beyond conventions, take calculated risks, and push the boundaries of creativity. This dynamic, as highlighted by one manager, plays a pivotal role in driving the organization's culture of innovation. Same comments reinforced this perspective, noting that the CEO's risk-taking spirit and innovative mindset create an atmosphere where innovation is not just encouraged but expected within the organizational context. These insights corroborate the statistical findings and provide a more profound understanding of the mechanisms underlying the relationship between entrepreneurial leadership and innovation culture. The findings emphasize the pivotal role of CEOs and leaders in fostering a culture that encourages creative thinking, problem-solving, and an unwavering commitment to innovation.

Therefore, entrepreneurial leaders are adept at fostering an environment where employees are encouraged to think innovatively, thus paving the way for cultivating an organisational culture that values and supports innovation.

Effect of Innovation Culture on Innovation (H3a, H3b)

Innovation culture encourages employees to explore new ideas, take calculated risks, and be receptive to change, thereby enhancing the capacity for innovative activities (Azeem et al., 2021). An organisational culture that encourages risk-taking, experimentation, and openness to new ideas provides fertile ground for the emergence of radical innovations (Nguyen et al., 2022). The findings of this study align with this perspective, indicating that IC plays a crucial role in shaping RI within CIEs. An innovative culture encourages employees to think boldly and pursue groundbreaking ideas, directly contributing to the development of radical innovations. Besides, an organisation that values creativity and provides a supportive environment for innovation has a better capacity for generating both groundbreaking breakthroughs and incremental improvements. In the insights shared by managers, it is highlighted that the organization's robust innovation culture encourages all members to approach challenges differently, experiment with new concepts, and collaborate effectively in problem-solving. This culture serves as a motivational force, inspiring individuals to pursue both bold innovations and incremental improvements. Many senior managers have emphasized that the innovation culture fundamentally supports the organization's capacity for radical and incremental innovation. It instils a mindset that drives continuous improvement while consistently daring to pioneer new approaches.

Mediation Effect of Innovation Culture between EL and Innovation (H3c, H3d)

The theoretical foundation of these hypothesis is rooted in the idea that EL cultivates a culture of innovation within an organisation, which drives radical and incremental innovations. The presence of an innovative culture reinforces the influence of EL by providing the necessary context and support for employees to translate EL-driven visions

into tangible innovations (Lumpkin and Dess, 1996). This mediation effect aligns with the literatures and previous discussions on effects from EL to IC and from IC to innovation performance, which suggests that IC serves as an intermediary channelling the influence of entrepreneurial leaders toward innovation. EL sets the stage for an innovative culture to thrive within the organisation, which, in turn, encourages employees to think boldly and pursue innovative ideas, contributing to the development of radical and incremental innovations.

Findings of this study suggest that EL's influence on innovation is not solely direct but is channelled through IC. CEOs with entrepreneurial leadership influence the organisation's culture, fostering creativity and innovation. As a result, employees are more inclined to participate in innovation initiatives and contribute to RI and II. This insight reinforces that a strong innovation culture is pivotal for organisations that leverage EL to make innovation successful. Insights from interviews provide qualitative support for a more in-depth understanding. According to the feedback, the CEO's entrepreneurial leadership extends beyond decision-making, encompassing the shaping of organizational culture. The CEO's entrepreneurial mindset has significantly contributed to fostering an innovation culture, facilitating the generation of both groundbreaking innovations and improvements. As the only driving mediator of both radical and incremental radical innovation through the findings of this study, organization’s innovation culture flourishes under the influence of the CEO. This relationship operates like a core power for innovation, where the more entrepreneurial the leader, the more innovative the culture, ultimately driving both radical and incremental innovations.

Effect of EL on Decentralization Structure (H4)

Past studies suggest that entrepreneurial leaders favour decentralised structures that empower employees, encourage autonomy, and promote quicker decision-making (Uhl-Bien and Arena, 2018). Findings of this study align with this perspective, emphasising the role of EL in shaping the organisational landscape. As revealed from the discussion with interviewees, the CEO, embodying the principles of entrepreneurial leadership, extends these principles to the organizational structure, emphasizing decentralization. This approach provides employees with increased ownership and freedom to innovate. It suggests that decentralization is a natural outgrowth of the CEO's leadership style, empowering employees to make decisions closer to the action with aim to positively influencing innovation endeavours. The empowerment of employees, promotion of autonomy, and facilitation of quicker decision-making, as influenced by entrepreneurial leadership, collectively shape a decentralized organizational structure that enhances innovation capabilities.

However, though the original aim of CEOs is promoting innovation by adopting decentralization structure, when it comes to radical innovation and incremental innovation, more attention should be given a full consideration. In different circumstance, or in other words to promote different innovation (radical or incremental), the effect of decentralization plays a different role, which will be discussed next.

Effect of Decentralization Structure on Innovation (H5a, H5b)

While H5a does not achieve statistical significance, exploring why this relationship may not align with the literature's expectations is essential. One possible explanation is that the nature of radical innovation in CIEs context may require a more centralised approach due to the need for coordination and resource allocation, as discussed in the interviews. This

indicates that the relationship between DS and innovation can be context-specific, highlighting the need for organisations to tailor their structures to the specific demands of their innovation projects.

The qualitative insights derived from interviews align seamlessly with the research findings, providing added depth to the understanding of the relationship. Based on the conclusion drawn from interviews, the decentralized structure plays a crucial role in facilitating the swift implementation of incremental innovations, by adopting a quick response to the updated needs from market, avoiding the opportunities taken by competitors. This perspective, in the researcher's view, reaffirms the pivotal role of decentralization structure in fostering incremental innovation within the organizational context.

In short, the relationship between DS and innovation is complex. While DS may not significantly influence Radical Innovation in CIEs context, it plays a pivotal role in fostering Incremental Innovation. This differentiation underscores the context-specific nature of the relationship and the importance of aligning organisational structures with innovation goals.

Mediation Effect of Decentralisation Structure between EL and Innovation (H5c, H5d)

In this section, the mediation effect of Decentralization Structure (DS) in the relationship between Entrepreneurial Leadership (EL) and both Radical Innovation (RI) and Incremental Innovation (II) will be discussed. Based on the discussion above, it can be found even though the decentralization structure is always a strategy adopted by CEOs with entrepreneurial leadership, the ‘win rate’ of the CEO’s can only be 50%, because the decentralization structure can only channel their innovation intention into incremental innovation, whereas not into radical innovation.

As illustrated in Hypothesis H5c, which proposed a positive mediation effect of DS between EL and Radical Innovation (RI), indicating that this mediation effect is not statistically significant. This finding deviates from the literature's expectations, often suggesting that a decentralised structure can enhance innovation by promoting autonomy and risk-taking (Darvishmotevali, 2019). This difference raises an interesting question: Why might the mediation effect not hold in CIEs context? One plausible explanation is that the type of risk and coordination required for Radical Innovation need a more collaboration instead of a quick response just from a separated division. Radical innovation projects in CIEs require close coordination among various teams. A more centralised structure is better suited for managing such projects.

Hypothesis H5d, on the other hand, suggested a positive mediation effect of DS between EL and Incremental Innovation (II). The literature has often indicated that decentralisation can enhance Incremental Innovation by fostering of experimentation and continuous improvement (Ceptureanu and Ceptureanu, 2023). The qualitative insights from interviews resonate with this literature, revealing that DS can facilitate Incremental Innovation. As interview findings suggest, the decentralised structure encourages employees at all levels to propose and implement small improvements to processes. That continuous stream of minor enhancements drives their organization’s Incremental Innovation. This alignment with the literature highlights the constructive role of DS in fostering Incremental Innovation.

In short, while the mediation effect of DS between EL and Radical Innovation may not be significant in CIEs context, it plays a crucial role in driving Incremental Innovation. These findings emphasize the context-specific nature of the relationship between

organisational structure and innovation outcomes, underlining the importance of aligning the structure with the specific innovation goals of the organisation.

Effect of EL on Knowledge Sharing (H6)

The literature suggests that leaders, particularly those with entrepreneurial traits, are pivotal in promoting knowledge sharing among employees. CEOs who exhibit entrepreneurial leadership behaviours create an environment where employees are encouraged to share their knowledge, expertise, and innovative ideas. The consistent theme emerging from interviewee responses highlights that the actions and mindset of CEOs, play a crucial role in fostering knowledge sharing by supposing knowledge sharing can ignite ideas among people. The willingness of the CEO to embrace knowledge flow creates an environment where employees feel not only encouraged but also comfortable sharing their knowledge. Moreover, the cascading effect observed, where active participation in knowledge sharing at the leadership level influences and motivates employees throughout the organization, emphasizes the importance of leadership behaviours in shaping organizational culture. These findings complement the quantitative data, providing a richer understanding of how entrepreneurial leadership influences knowledge sharing practices within the organization.

However, in this study, a warning has been detected after further examining the relationships between CEO's contribution to knowledge sharing with innovation performance. The warning comes with the danger that based on this study, though the leaders illustrated a beautiful picture in mind that innovation can be promoted by knowledge sharing, the data and interview draws a totally different story. A higher knowledge sharing will not only do not have any channel effect on incremental innovation, but also play a hindering

effect on radical innovation, which is the key competitive source for organization to survive. This will be explained through the discussion next.

Effect of Knowledge Sharing on Innovation (H7a, H7b)

Contrary to the study's initial expectation, knowledge sharing detrimentally influence radical innovation. The conventional wisdom in the literature often underscores the positive relationship between knowledge sharing and innovation (Castaneda and Cuellar, 2020). However, the result suggests that excessive knowledge sharing, particularly in the context of radical innovation, may impede the pursuit of groundbreaking ideas. As discussed with senior managers, the organization's strong emphasis on knowledge sharing has occasionally hindered the pursuit of radical innovations. According to this perspective, there is a need to explore knowledge sharing without being overly constrained by existing knowledge. The findings then suppose that firms seeking radical innovations should balance knowledge sharing with an environment that encourages radical innovations.

The relationship between knowledge sharing and Incremental Innovation (II), does not yield statistical significance. The non-significant result indicates that knowledge sharing does not significantly influence incremental innovation. The literature on incremental innovation often underscores the role of knowledge sharing in facilitating continuous improvement and adaptation (Berraies et al., 2021). However, the results indicate that the relationship between knowledge sharing, and incremental innovation might be more complex than previously assumed. The respondents emphasized that while incremental innovations often arise from incremental knowledge sharing, other factors always outweigh the effect than knowledge sharing such as innovation culture and leader's direct motivation. This finding aligns with recent research suggesting incremental innovation may rely on a

combination of factors, and some factors may play a more important role in driving incremental innovation beyond the knowledge sharing (Nguyen et al., 2022), which in this study is entrepreneurial leadership.

The qualitative insights shed light on the complexity of the relationship between knowledge sharing and innovation outcomes and align with the quantitative results, contributing to a more comprehensive understanding of the dynamics within organisations striving for innovation. These qualitative responses indicate a tension between the desire for extensive knowledge sharing, often associated with incremental innovations, and the need for a more exploratory, less constrained environment to foster radical innovations. The insights from senior managers offer a nuanced understanding of the challenges organizations may face when seeking to balance knowledge sharing practices for both incremental and radical innovation initiatives. This tension highlights the complexity of managing knowledge-sharing strategies to accommodate diverse innovation needs within an organization, which the study will discuss next regarding the mediation role of knowledge sharing.

Mediation Effect of Knowledge Sharing between EL and Innovation (H7c)

The literature has consistently highlighted the crucial role of knowledge sharing in innovation (Berraies et al., 2021). However, previous discussion demonstrates a unique facet of this relationship. The relationship between entrepreneurial leadership and knowledge sharing can be a double-edged sword. While EL stimulate knowledge, too much emphasis on sharing existing knowledge may inadvertently stifle the pursuit of groundbreaking ideas. These findings suggest that under the situation when CEO has entrepreneurial leadership and build organisation with IC and DS, there might be no need to adopt knowledge sharing,

which not only do no contribution to II, but also impede the adoption of RI. As explained from interviews, CEOs encourage knowledge sharing, but sometimes it has led the leaders to overemphasise existing knowledge and not explore new territories. Besides, too much knowledge sharing may let the first line leader do not have the 'courage' to think independently, as explained in Confusion philosophy in Chapter 2 that they are not 'dare to challenge' the CEOs.

Considering the complicated effect of knowledge sharing between EL and innovation, the study suggests that even though previous studies pointed out the role of knowledge sharing between leadership and innovation, much attention and care should be paid under the situation of entrepreneurial leadership's promotion on innovation. By its negative effect on the core competitive advantage of a company, radical innovation, the study suggests it should be careful when CEOs considering promote the knowledge sharing in an organization. In other words, it is maybe a better choice to set independent organisations to promote radical innovation instead of making every body's mind 'on the same page' to hinder exploratory discoveries.

5.2.3 Interaction Effects of External Factors between EL and Organisational Factors

In the ever-evolving field of CIEs, where dynamism, technology changes, and market competition are constant, understanding the influences between external environmental factors and entrepreneurial leadership is important. This section delves deep into this critical aspect of this study, aiming to uncover the relationships that drive innovation within this unique context. Past studies have established the foundation for this exploration, explaining the role of external factors as a catalyst for organisational intermediates. As the details will

be discussed in this section, the study will provide a thorough discussion on how factors such as ED/TT/MO intertwine with entrepreneurial leadership to shape the intermediation effects.

Each sub-section will zoom in on specific dimensions of this multifaceted interaction. The discussion seeks to unravel the mysteries behind these interactions through empirical analysis and insightful qualitative findings. This thorough examination will advance the understanding of the CIEs on how moderators shape the effect of their CEOs' entrepreneurial leadership on organisational factors, therefore offers valuable insights for practitioners, policymakers, and scholars.

Moderation Effect of TT between EL and IC (H8)

Past studies suggest that technological turbulence can influence how organisations approach innovation (Ogbeibu et al., 2020). Entrepreneurial leadership might be more significant in fostering an innovation culture in environments characterised by rapid technological change. The result did not show a significant moderation effect, this may be due to the unique context of this study, where the moderating influence of TT on the relationship between EL and IC appears to be less pronounced.

While previous literature may emphasize the importance of TT in fostering an innovation culture, findings of this study suggest that in specific settings, the influence of EL on IC remains stable, regardless of the level of technological turbulence. This insight is valuable for organisations operating in diverse environments, highlighting the need to adapt leadership and culture strategies to their specific context. Additionally, as learned from interviews, CEO's intrinsic motivation to promote innovation culture originate from their entrepreneurial leadership, it is not a matter of whether there exists technological turbulence or not. That is to say, the mediating role of innovation culture holds its stability across

varying technological turbulence levels, and it is more with entrepreneurial leadership's influence directly.

Moderation Effect of TT between EL and DS (H9)

Firms often adopt more decentralised structures in dynamic environments with turbulent technology to facilitate rapid decision-making and innovation (Ogbeibu et al., 2020). The findings of this study align with this notion, as it finds that in high TT environments, the effect of EL on DS is more obvious. CEOs with entrepreneurial leadership traits may play a more substantial role in shaping decentralisation structures in response to increased technological turbulence. As in the interview, in CIEs, technological changes are constant, and CEO's entrepreneurial leadership style has been instrumental in fostering a more decentralised structure. It is a necessity in fast-paced world. As pointed out by many respondents, it is obvious that a highly turbulent technology change always makes CEOs to feel more confident by adopting a decentralization structure. Because as they explained that a decreolized structure can make them sense the technology change quicker and better adapted to the change.

Consistent technology change always pushes the products or services of an organization to be update with the latest technology. The consistent update of the products or services, or in other words, the continuous incremental innovation of the products or the services is needed in such a situation. Previous section has discussed that decentralization structure influence positively on incremental innovation. Therefore, the conclusion can be drawn that when companies facing a turbulent technology environment, a good way for products or services to keep updated is to adopt decentralization structure, and more the

turbulent is, a more decentralized structure should be adopted to cope with the challenges and keep competitive in the market.

Moderation Effect of TT between EL and KS (H10)

In turbulent environments, knowledge sharing becomes critical for organisations to adapt and respond to rapid changes (Zhao et al., 2021). Findings of this study align with this idea, showing that in high TT settings, the influence of EL on KS is more obvious. This implies that CEOs with entrepreneurial leadership traits may foster knowledge-sharing more effectively when facing increased technological turbulence. The interview findings offer further insights into how TT interact with entrepreneurial leadership to influence knowledge-sharing practices. As mentioned by the senior managers that in a tech-driven industry, the CEO's entrepreneurial mindset is a driving force behind knowledge sharing. When the external landscape is ever-changing, their leadership is more committed to fostering knowledge sharing.

However, as explained previously, the knowledge sharing negatively influence radical innovation and meanwhile shows no significant influence on incremental innovation. Under this argument, even though the fact is that a higher technological turbulence may contribute to a higher knowledge sharing, CEOs must pay attention to the fact which is contrary to their intuition that ‘knowledge sharing is totally good’. CEOs must understand that there is no need for improving incremental innovation by adopting knowledge sharing, and it is dangerous if their purpose is to increase radical innovation. In an environment where technology is consistently changing, CEOs should not be encouraged to focus on knowledge sharing, instead more effective strategies should be adopted as discussed in other parts.

Moderation Effect of ED between EL and IC (H11)

The literature on environmental dynamism and innovation culture suggests that organisations operating in highly dynamic environments may need to foster more adaptive and flexible cultures to thrive (Visser and Scheepers, 2022). As it can be concluded from the interviews that for China, the external market is always change. After the opening since 1990s, there is even not a stable market in China. Because of that, for a CEO with entrepreneurial leadership, it is more than natural to build an innovation culture regardless it is more turmoil than usual or not.

Moderation Effect of ED between EL and DS (H12)

The literature on the role of environmental dynamism in decentralisation emphasises that in highly dynamic market, firms may need to adopt more decentralised structures to facilitate quick decision-making and adaptability (Mikalef et al., 2021). Meanwhile, findings of this study indicate that the relationship between EL and DS becomes stronger in highly dynamic environments, leading to a more decentralised organisational structure. This aligns with research suggesting that entrepreneurial leadership in higher dynamic market encourage organisations to decentralise decision-making authority, enhancing innovation (Witschel et al., 2022).

Insights obtained from the interviews further reinforce this statement. As the senior managers commented that CIEs is highly susceptible to sudden market changes. CEO's entrepreneurial leadership style empowers teams at different levels to make decisions swiftly, which is crucial for innovation. These response underscores the notion that, in dynamic environments, EL encourages a decentralised structure to enable faster adaptation and innovation. Therefore, ED significantly moderates the relationship between EL and DS. EL

is more likely to lead to decentralised structures in highly dynamic environments, facilitating innovation by empowering teams to respond quickly to market changes. Combining the role of decentralization on incremental innovation, a higher dynamic market can foster the build-up of decentralization structure and thus promote the incremental innovation of the organization.

Moderation Effect of ED between EL and KS (H13)

The literature on the moderating effect of environmental dynamism on leadership styles highlights the importance of adaptability in dynamic environments. Entrepreneurial leaders are more likely to effectively adapt to and leverage changing market conditions (Nguyen et al., 2021). Leaders may encourage knowledge sharing in dynamic environments to enhance innovation and adaptability (Arsawan et al., 2022). As the respondents argued, that CEOs have remarkable ability to anticipate market changes. In their rapidly changing industry, CEOs believe knowledge sharing is vital for staying ahead of the curve.

However, same as what has been discussed in technological turbulence part, knowledge sharing may hinder CEO’s good intention to be realized. Because of that, it should pay attention that when facing technology turbulence, or facing dynamic market, knowledge sharing may not be a good choice. A better decision should be made such as considering the building-up of innovation culture and decentralization structure.

Moderation Effect of MO between EL and IC (H14)

Past studies suggest that market orientation is crucial for adapting to changing market dynamics and aligning an organisation's activities with customer needs (Randhawa et al., 2021). An organisation with a strong market orientation is typically responsive to customer

feedback and market changes (Falahat et al., 2022). However, this study's results indicate that MO does not significantly moderate the relationship between EL and IC in our specific study context. To explain this phenomenon, the study tried to find out the reasons from the interview responses. As mentioned from the interview that the internet industry is already highly customer-driven from beginning of this industry to now, CEOs always take responsiveness to the market needs to be coupled with a culture of innovation. This suggests that leadership recognises the importance of innovation culture and actively promotes it, irrespective of market orientation.

Moderation Effect of MO between EL and DS (H15)

The literature highlights that market-oriented organisations tend to decentralise their decision-making processes to respond more to market dynamics and customer (Nouinou et al., 2023). This aligns with this study's findings, where MO strengthens the relationship between EL and DS. The quantitative results suggest that in organisations with a strong market orientation, the influence of EL on adopting a decentralised structure is more pronounced. As pointed out by many managers from the interviews, that for internet companies, products or services are made up by many relatively separate functions or 'sub-products', when a company is more customer oriented, the company tend to response to the customers quick and effective. The only way to realize that is through decentralization structure to enable different function team to deal with the specific needs from customers.

In conclusion, the results of this study indicate that MO has a significant moderating effect on the relationship between EL and DS. Organisations that emphasize a market-oriented approach tend to experience a more substantial influence of EL on adopting

decentralised structures, aligning with the theoretical underpinnings of market orientation as a driver for decentralisation.

Moderation Effect of MO between EL and KS (H16)

While the literature has suggested that MO can influence knowledge sharing by emphasising customer insights and market-driven learning (Jaworski & Kohli, 1993), the findings suggest that MO may not significantly moderate the relationship between EL and KS in the context of CIEs.

The reason behind this can be deduced that always customers need is different, and different functions should have their specific tone to meet the taste of the demanding customers, according to the interviews. Because of that, there is no need to share the knowledge under this situation since each function should keep their special characteristics instead of being common in normal.

5.3 Discussion on Qualitative Findings and Integrating a Chinese Leadership Philosophies Perspective

In this section, we explore the qualitative findings from senior managers' interviews, focusing on the various facets of entrepreneurial leadership (EL) within Chinese Internet Enterprises (CIEs) and its impact on organizational innovation. By examining these findings, we deepen our understanding of EL's multifaceted influence, encompassing critical mechanisms such as fostering resource availability, enhancing operational efficiency, promoting customer-centricity, and nurturing employee involvement. These themes highlight EL’s vital role in driving both Radical Innovation (RI) and Incremental Innovation (II), creating a forward-thinking organizational environment.

The Innovation Culture (IC) fostered by EL emerges as an "ecosystem of creativity and progress," fostering a collaborative, adaptive organizational climate. Likewise, Decentralization Structure (DS) is recognized as "structural empowerment," promoting agility in decision-making and quick responses to market shifts. Conversely, Knowledge Sharing (KS) reveals dual effects: excessive formalization can limit the disruptive thinking essential for RI. External moderators—Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO)—underscore the need for adaptability in the face of today's volatile, uncertain, complex, and ambiguous (VUCA) environments.

The study's qualitative findings show that entrepreneurial leadership in CIEs is deeply influenced by traditional Chinese philosophies. Confucianism, Daoism, Legalism, and Communism serve as cultural lenses to understand the distinct leadership behaviors displayed by CEOs in CIEs. Each of these philosophies provides a unique perspective on leadership and innovation. Confucianism emphasizes moral leadership and social harmony, Daoism focuses on adaptability and balance, Legalism advocates for structured and controlled environments, and Communism promotes collective goals and societal impact. By integrating these philosophical insights, leaders in CIEs can develop a comprehensive approach to fostering innovation that is deeply rooted in Chinese cultural values. Table 5.1 below summarizes the detailing explanations of themes from qualitative findings, showing how they align with traditional Chinese philosophies. Each sub-theme emphasizes a different aspect of EL and other variables that contributes to innovation. Additionally, the table captures the effect of external factors such as TT, ED, and MO, demonstrating that EL's adaptability in a VUCA environment is crucial to maintaining a competitive edge.

Table 5.1: Detailed Discussion of Qualitative Findinds

Main Theme	Explanation	Summary of Findings	Link to Leadership Philosophy
Entrepreneurial Leadership	**Core Driver of Innovation**	CEO's entrepreneurial leadership serves as the core influence driving both RI and II in CIEs.	Confucianism (leader's central role); Daoism (adaptive leadership)
	Resource Availability	EL behaviors ensure the availability of essential resources, supporting innovation capacity.	Confucianism (resource stewardship); Daoism (flexibility in allocation)
	Operational Efficiency	Leaders focus on enhancing internal processes to maintain high operational standards.	Legalism (efficient systems); Daoism (adapting workflows)
	Customer-Centricity	EL emphasizes responsiveness to customer needs, aligning innovation with market demands.	Confucianism (harmony with stakeholders); Communism (collective focus)
	Employee Involvement	Engaging employees actively in decision-making cultivates loyalty and innovation.	Confucianism (team harmony); Communism (collaborative spirit)
	Passion for Progress	Leaders' passion fosters a committed work environment, motivating teams toward ambitious goals.	Daoism (inner motivation); Confucianism (loyalty to goals)
	Market Competitiveness	EL drives innovation as a competitive advantage, crucial in the tech-driven internet sector.	Legalism (competitive strategy); Daoism (adaptability)
	Response to Government Initiatives	Leaders align business goals with national policy, leveraging government support for innovation.	Confucianism (social responsibility); Communism (state alignment)
Organizational Factors	**Innovation Culture as Ecosystem of Creativity and Progress**	IC fosters collaboration, experimentation, and risk-taking, essential for both incremental and radical innovation.	Confucianism (continuous learning); Daoism (creativity within structure)
	Decentralization Structure as Structural Empowerment	DS enables agile responses to market dynamics, promoting incremental innovation and faster adaptability.	Daoism (flexibility in decision-making); Communism (empowerment of teams)
	Knowledge Sharing as Dual Nature	KS enhances incremental innovation but can restrict radical innovation if overly formalized.	Confucianism (knowledge as shared resource); Legalism (orderly structure)

Table 5.1 continued

VUCA Environment	**Technological Turbulence as Innovation Catalyst**	TT drives the need for frequent adjustments in tech strategies, enhancing the importance of EL adaptability.	Daoism (embracing change); Legalism (strategic readiness)
	Environmental Dynamism and Agility	ED prompts an agile organizational response, aligning DS and IC to adapt to dynamic market changes.	Daoism (fluidity); Legalism (structured adaptation)
	Market Orientation as a Customer-Driven Navigator	MO directs innovation to meet shifting customer expectations, making EL's customer focus crucial.	Confucianism (respect for stakeholders); Communism (collective needs)

In synthesizing the qualitative insights with broader theoretical frameworks, it becomes clear that Chinese leadership philosophies are intricately linked with EL's impact on organizational innovation. Confucianism's focus on hierarchy and harmony underpins the collaborative aspects of IC and KS, while Daoism's emphasis on adaptability aligns closely with DS and the organization's response to environmental dynamism. Legalism's structural emphasis resonates in KS's orderly dissemination, especially in high-tech contexts where too much structure may stifle RI. Finally, the Communist philosophy reinforces collective goals, as seen in how EL aligns with governmental initiatives and customer-oriented practices. The following sections will provide a detailing discussion on how the findings reflect and be influenced by the traditional Chinese leadership philosophies.

5.3.1 Entrepreneurial Leadership and Innovation Culture

The findings highlight the pivotal role of entrepreneurial leadership (EL) in fostering an innovation culture (IC) within Chinese Internet Enterprises (CIEs). This aligns with the work of Spicer (2020), who argue that leadership is instrumental in shaping an organization's innovation orientation. Respondents indicated that the CEO's commitment to embedding innovation into the company's core values is central to fostering a culture that supports both

incremental and radical innovation. This is consistent with Confucian leadership principles, where ethical governance, leadership by example, and a focus on harmony influence how innovation is integrated into the organizational framework (Ngar-yin Mah et al., 2021).

The CEO's leadership approach, which encourages responsible experimentation, aligns with the Confucian ideal of leaders as ethical role models. According to Yuan et al. (2023), Confucianism emphasizes moral authority and collective harmony, both of which are crucial in nurturing an innovation culture. In this study, the respondents reported that they were motivated to pursue new ideas within a framework that balanced both creativity and responsibility. This supports the argument by Giorgi et al. (2015) that innovation thrives when leaders balance ethical leadership with a long-term strategic vision.

Furthermore, the mediating role of Innovation Culture (IC) in driving innovation is evident. As suggested by Giorgi et al. (2015), an innovation-driven culture is critical for motivating employees to pursue both incremental and radical innovation. The findings in this study show that Confucian leadership provides a moral and ethical framework that encourages this dual focus, ensuring innovation serves the collective good rather than individual success. This finding resonates with the work of Ding et al. (2022), who found that leaders embodying Confucian principles create an environment where innovation is shared and nurtured within the organization.

In conclusion, Confucian leadership significantly enhances the innovation culture within CIEs by providing a framework for both incremental and radical innovation. This is consistent with the findings of Ding et al. (2022), who highlight the role of ethical leadership in promoting a balanced and sustainable innovation culture. By fostering collective responsibility, ethical leadership, and a long-term vision, entrepreneurial leaders align

innovation efforts with the company's broader mission. This balance of stability and creativity ensures that both forms of innovation—incremental and radical—flourish, driving organizational success and growth.

5.3.2 Decentralization Structure and Leadership Flexibility

The findings reveal that entrepreneurial leaders in Chinese Internet Enterprises (CIEs) often embrace a decentralized structure (DS) to promote innovation. This aligns with Dess et al. (1999) assertion that decentralized structures foster autonomy and agility within organizations. Respondents noted that the CEO encourages a leadership style that minimizes intervention, granting teams the freedom to make decisions at the departmental level. This reflects Daoist principles, particularly the concept of wu wei (non-intervention), which emphasizes allowing processes to unfold naturally without unnecessary interference (Lam et al., 2021).

The CEO's approach to leadership, characterized by minimal intervention, allows employees the autonomy to react swiftly to market changes and implement innovative solutions. This approach mirrors Daoist thought, where leaders trust their teams to make decisions independently. Jansen (2005) support this idea, suggesting that decentralized structures promote creativity and enable rapid decision-making. The decentralized structure (DS) thus acts as a mediator between entrepreneurial leadership (EL) and incremental innovation (II), facilitating the swift implementation of small-scale innovations. This finding resonates with Santos-Vijande et al. (2022), who highlight the advantages of decentralized systems in driving innovation cycles, particularly in dynamic industries like the internet sector.

The decentralization structure also facilitates cross-departmental collaboration, a critical factor in fostering creativity. Several interviewees highlighted that the absence of bureaucratic bottlenecks enabled continuous innovation and adaptation. This is consistent with Basco et al. (2020), who argue that cross-functional collaboration is a key driver of organizational creativity and innovation.

However, the findings also suggest that decentralization is more effective for incremental innovation (II) than for radical innovation (RI). One manager shared that, for high-stakes innovations, the CEO tends to become more involved, as these require a clearer vision and direction from leadership. This observation suggests that while decentralization fosters incremental innovation, radical innovation requires more centralized guidance. Daoist principles of adaptability suggest that a flexible approach works well for incremental innovation, but entrepreneurial leaders must play a more active role in guiding large-scale transformations. This insight is echoed by Neubert et al. (2016), who found that while decentralized systems support routine innovation, substantial innovations often necessitate stronger central leadership.

In conclusion, Daoist principles of non-intervention and flexibility are reflected in the decentralized structures adopted by entrepreneurial leaders in CIEs. These structures provide the flexibility necessary for driving incremental innovation, empowering teams to make decisions and collaborate more effectively. However, when addressing radical innovation, a more centralized approach is often necessary, with CEOs taking a direct role in guiding major transformations. The decentralized structure thus mediates the relationship between entrepreneurial leadership and innovation, allowing for incremental improvements while reserving CEO intervention for more radical changes.

5.3.3 Knowledge Sharing and Creative Boundaries

The qualitative findings underscore the critical role of entrepreneurial leadership (EL) in shaping knowledge sharing (KS) practices within Chinese Internet Enterprises (CIEs). Many interviewees highlighted that CEOs actively promote structured, controlled knowledge-sharing systems to ensure that innovation efforts remain consistent. This practice aligns with Legalist philosophy, which emphasizes order, discipline, and the efficient management of resources—key elements in governing how knowledge is disseminated within organizations (Witzel, 2016).

Respondents noted that the knowledge-sharing platforms within their companies are designed for efficiency and control. CEOs emphasize that knowledge sharing should be goal-oriented, ensuring that information is shared not for its own sake, but with a clear purpose to add value to innovation processes. This is consistent with Legalist principles that stress the importance of order and management in organizational systems (Witzel, 2016). Rather than encouraging an unrestricted flow of information, which could lead to information overload or a lack of focus, entrepreneurial leaders manage knowledge dissemination strategically, ensuring that employees have access to the specific information required for their tasks.

However, the findings also reveal a paradox concerning radical innovation (RI). One participant shared that, while knowledge sharing is encouraged by the CEO, excessive sharing in the context of radical innovation sometimes feels limiting to creativity. The need for space to think “outside the box” was emphasized, reflecting a tension between the structured approach advocated by Legalism and the creative freedom required for radical breakthroughs. This resonates with the literature, which suggests that while structured

knowledge-sharing systems are useful for routine processes and policy dissemination, they can inhibit the kind of diverse, creative thinking needed for radical innovations (Obeidat et al., 2021).

In conclusion, the influence of Legalism on entrepreneurial leadership is evident in how knowledge sharing is structured within CIEs. Entrepreneurs emphasize efficient, goal-oriented knowledge sharing that aligns with the Legalist focus on order and control. This approach proves effective for disseminating policies and ensuring consistency. However, when it comes to radical innovation, the structured nature of knowledge sharing may restrict the creative freedom necessary for breakthrough ideas. The findings underscore the need for a balance between structured knowledge sharing and the flexibility required to foster creativity and innovation.

5.3.4 The Influence of VUCA Environment

The qualitative findings reveal how entrepreneurial leadership (EL) in Chinese Internet Enterprises (CIEs) is shaped by external factors such as Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO). These moderators reflect the complexities of the modern business environment, often characterized by Volatility, Uncertainty, Complexity, and Ambiguity (VUCA), and show how entrepreneurial leaders adapt their strategies to navigate these challenges (Utoyo et al., 2020).

Respondents noted that in their industry, rapid technological changes make it difficult to predict future breakthroughs. The CEO encourages teams to remain agile and think about how they can quickly adapt to new technological shifts. This aligns with the Volatility aspect of the VUCA framework, where Technological Turbulence (TT) moderates the relationship between entrepreneurial leadership and decentralized structures (DS). In

volatile environments, entrepreneurial leaders must empower teams to respond independently, as centralized decision-making could delay the organization's ability to react to technological shifts (Renko et al., 2015). The findings suggest that entrepreneurial leaders promote decentralization to facilitate incremental innovation, ensuring teams are responsive and adaptable to technological changes.

Additionally, interviewees described how the CEO emphasizes the importance of staying ahead of market trends, urging teams to be ready to pivot based on customer needs and market shifts. This insight reflects the Uncertainty and Complexity dimensions of the VUCA environment, highlighting the role of Environmental Dynamism (ED) as a moderator between entrepreneurial leadership and knowledge sharing. In dynamic environments, effective knowledge sharing is essential to keep all teams aligned with the latest market conditions and customer expectations (Leitch et al., 2013). However, the findings also suggest that excessive knowledge sharing can sometimes inhibit radical innovation, particularly in uncertain contexts where creative, out-of-the-box thinking is required.

The Market Orientation (MO) dimension also emerged as a critical moderator, illustrating the Ambiguity that organizations face in balancing customer demands with broader market trends. One senior manager highlighted the CEO's emphasis on the importance of listening to customers while cautioning against becoming overly reactive, which might hinder the pursuit of more innovative ideas. This reflects the Ambiguity dimension of VUCA, where responding to immediate customer demands may conflict with the need for radical innovation. While Market Orientation (MO) helps drive incremental innovation, it can limit the organization's ability to take bold steps towards disruptive change (Narver et al., 1998). The findings indicate that entrepreneurial leaders must balance

responsiveness to market shifts with the creative freedom needed for breakthrough innovations.

From the perspective of Upper Echelons Theory (UET), the VUCA environment directly influences how entrepreneurial leaders navigate external challenges. Their cognitive frameworks and strategic decision-making are shaped by the volatile, uncertain, and complex nature of the business environment (Hambrick and Mason, 1984). As the qualitative findings suggest, entrepreneurial leaders are adept at adjusting their leadership strategies in response to these external factors, promoting decentralization, knowledge sharing, and market orientation to drive incremental innovation while being cautious about radical innovations.

Moreover, the Resource-Based View (RBV) underscores the importance of external moderators—such as TT, ED, and MO—in determining how organizational resources are utilized (Barney, 1991). Entrepreneurial leaders leverage these external factors to optimize the use of human capital and resources, enabling innovation even in volatile and uncertain environments.

5.3.5 Summary of Qualitative Discussion by Integrating Chinese Philosophies

CIEs can optimize their leadership practices to foster both incremental and radical innovations, ensuring a balanced and sustainable approach to innovation. This balance is critical for leaders seeking to harness the full potential of their organizations while navigating the unique challenges of the Chinese business landscape. By consolidated the previous qualitative discussions, Figure 5.1 illustrates the nuanced relationships between the main themes of study.

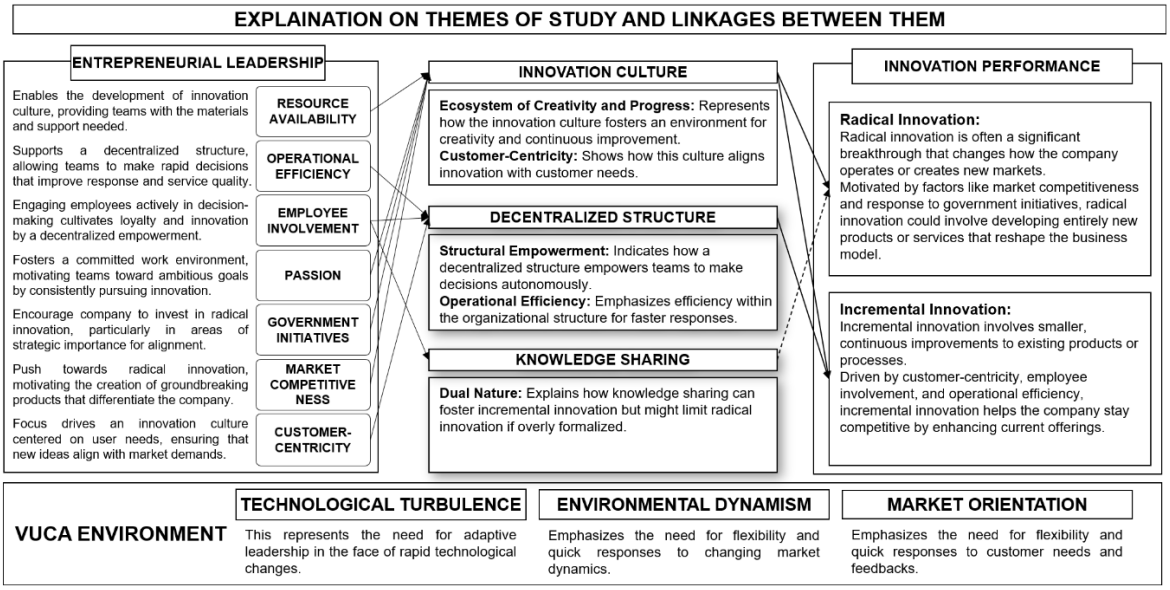


Figure 5.1: Explaination on Themes of Study and Relationships

This section further discusses the significant influence of Chinese philosophies—Confucianism, Daoism, Legalism, and Communism—on entrepreneurial leadership (EL) behaviours in Chinese Internet Enterprises (CIEs). These philosophies shape core leadership dimensions such as building commitment, absorbing uncertainty, and opportunity identification, which, in turn, interact with organizational mediators like Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS). Understanding how these philosophies influence EL is crucial to comprehending how CIEs balance incremental innovation (II) and radical innovation (RI).

Confucianism: Stability, Harmony, and Collective Responsibility

Confucianism emphasizes collective harmony and ethical leadership, which directly aligns with the building commitment dimension of entrepreneurial leadership. Leaders grounded in Confucian principles foster a sense of shared responsibility and collaboration among employees, strengthening Innovation Culture (IC). This focus on harmony helps align employee goals with organizational objectives, which is particularly effective in driving

incremental innovation (II) through continuous improvements. However, Confucian values may sometimes suppress radical innovation (RI), as risk-taking and challenging established norms might conflict with the emphasis on conformity and social order.

Daoism: Flexibility and Adaptation in the Face of Uncertainty

Daoism, with its principle of wu wei (non-action or minimal interference), emphasizes adaptability and the importance of allowing individuals the freedom to make decisions. This aligns with absorbing uncertainty and fosters a decentralized structure (DS), which supports incremental innovation (II) by allowing faster decision-making and a more flexible response to changing conditions. Daoist-inspired leadership encourages autonomy and empowerment, which is crucial for enhancing incremental improvements. However, radical innovation (RI) may require a more direct, strategic push from leadership to guide the organization toward high-risk, high-reward opportunities, which can sometimes conflict with Daoist non-interference.

Legalism: Control, Structure, and Efficiency

Legalism emphasizes strict governance, structure, and a clear hierarchy, which aligns with the defining gravity dimension of entrepreneurial leadership. Legalist leaders prioritize resource efficiency and clarity in knowledge sharing (KS). By clearly defining roles and responsibilities, they enhance incremental innovation (II) through streamlined operations and efficient communication. However, Legalist rigidity can stifle the open exploration and risk-taking needed for radical innovation (RI), as it may discourage employees from thinking outside of established norms or venturing into uncharted territories.

Communism: Collective Achievement and Opportunity Identification

Communism in Chinese leadership emphasizes the importance of collective achievement and egalitarianism, which impacts opportunity identification and exploitation. Leaders inspired by Communism focus on the success of the collective, often encouraging collaborative effort in identifying and exploiting new market opportunities. This fosters an innovation culture (IC) that aligns with both incremental and radical innovation outcomes, although the focus on collective success may sometimes limit the individual initiative and personal risk-taking necessary for disruptive breakthroughs. A balanced approach is required to maintain both team synergy and individual creativity.

To link all the above discussed philosophies with the variables of this study, Table 5.2 illustrates the corresponding relationship in a structured manner.

Table 5.2: Relationship Between Chinese Philosophies and Variables of Study

Philosophy	Key EL Behaviors	Associated Mediators	Effect on Innovation	Key Considerations
Confucianism	Building Commitment (team focus)	Innovation Culture (IC)	Supports II, may limit RI	Balance harmony with risk-taking for creativity
Daoism	Absorbing Uncertainty (autonomy)	Decentralization Structure (DS)	Enhances II, requires push for RI	Combine flexibility with strategic focus for RI
Legalism	Defining Gravity (efficiency)	Knowledge Sharing (KS)	Enhances II, may hinder RI	Too much control limits diverse thinking for RI
Communism	Opportunity Identification (collective success)	Innovation Culture (IC)	Supports II, requires individual risk for RI	Balance collective achievement with personal creativity

In practice, entrepreneurial leaders must navigate these four leadership philosophies to maximize both incremental and radical innovation. Confucianism's focus on harmony fosters a strong innovation culture but needs to be balanced with Daoism's flexibility to

maintain autonomy in decision-making. Legalism's emphasis on efficiency supports incremental innovation but requires openness to creative risk for disruptive breakthroughs. Finally, Communism’s collective achievement nurtures teamwork, but entrepreneurial leaders must also encourage individual initiative to sustain a competitive edge in the market.

5.4 Merged Discussion from Quantitative and Qualitative Findings

This section offers a comprehensive analysis of Entrepreneurial Leadership (EL) and its influence on innovation performance within Chinese Internet Enterprises (CIEs), integrating both quantitative and qualitative methods. Through the synthesis of these findings, it provides deeper insights into the mechanisms by which EL impacts Radical Innovation (RI) and Incremental Innovation (II), addressing the study's research objectives and questions in a holistic manner.

The quantitative analysis reveals that EL has a significant influence on both RI and II, aligning with Research Question 3 (RQ3), which inquires how EL shapes innovation performance in CIEs. Entrepreneurial leaders actively drive innovation through behaviours that encourage creativity, risk-taking, and the continuous pursuit of opportunities. These quantitative results are further enriched by the qualitative findings, where interviewees emphasized how entrepreneurial leaders foster an environment that promotes creative problem-solving, anticipates uncertainty, and builds strong organizational commitment. These leadership behaviours, as noted by senior managers, create a cohesive, goal-oriented atmosphere that drives both types of innovation.

The Research Objectives (RO1) and Research Question 1 (RQ1), which focus on the mediating role of internal organizational factors, were thoroughly addressed. The study confirms that Innovation Culture (IC) is a critical mediator between EL and innovation

outcomes. Both the quantitative data and qualitative interviews highlight that IC channels EL's influence into fostering both RI and II, emphasizing a shared vision that encourages employees to experiment and engage in innovative practices. The qualitative insights reveal that when entrepreneurial leaders nurture an innovation-centric culture, employees feel empowered to take calculated risks, a behaviour particularly conducive to Incremental Innovation (II) but equally vital for Radical Innovation (RI) when aligned with the organizational goals.

Similarly, the Decentralization Structure (DS) is found to mediate EL's influence on II more strongly, as decentralizing decision-making allows teams to respond to market demands swiftly. This finding supports RO1 and RQ1, as the empirical evidence demonstrates that EL fosters innovation by empowering teams, particularly in cases of incremental improvements. In contrast, Radical Innovation (RI) often requires a more centralized approach, as significant changes in direction are typically guided directly by the CEO or senior leadership. This nuanced relationship was confirmed by both the quantitative results and qualitative interviews, which noted that major transformative initiatives require strong central leadership to manage risks and guide the organization through disruptive innovations.

The study also addresses the complex role of Knowledge Sharing (KS) as a mediator between EL and innovation. Both the quantitative and qualitative findings confirm that it may hinder RI by reinforcing established ways of thinking, thereby limiting disruptive creativity. This finding responds directly to RQ1, by highlighting the double-edged nature of KS in innovation processes. In the qualitative interviews, several managers expressed

concern that overly structured knowledge-sharing systems might limit the freedom to explore unconventional ideas, crucial for RI.

Furthermore, the study successfully addresses Research Objective 2 (RO2) and Research Question 2 (RQ2), which focus on the moderating effects of external factors such as Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO). The quantitative results show that these external factors intensify the relationship between EL and internal organizational structures. In rapidly changing environments characterized by high TT and ED, entrepreneurial leaders are more likely to decentralize decision-making and promote knowledge-sharing practices to ensure agility and responsiveness to external changes. However, the qualitative data reveals that these external moderators also require careful management, as certain strategies (such as excessive knowledge-sharing) may inadvertently suppress RI in highly dynamic environments.

Additionally, Chinese leadership philosophies—including Confucianism, Daoism, Legalism, and Communism—emerge as important contextual factors that shape how EL is practiced and perceived within CIEs. These philosophies complement the study's core findings by influencing how leaders approach IC, DS, and KS, thereby moderating the effectiveness of EL in driving innovation. This integrated discussion confirms that EL significantly drives both radical and incremental innovation through IC, DS, and KS as mediators, while TT, ED, and MO act as external moderators that shape how these internal factors operate. The research successfully addresses the research objectives by uncovering the intricate dynamics between EL, internal organizational structures, and external VUCA environmental pressures. Moreover, the added complexity of Chinese leadership philosophies further enriches the understanding of how EL operates in the unique context of

CIEs, shaping the pathways through which innovation is fostered in an increasingly competitive and dynamic market landscape. To provide a synthesized view of how our quantitative and qualitative findings converge or diverge across major themes, Table 5.3 illustrates the alignment of entrepreneurial leadership's effects on core organizational factors, revealing the ways in which qualitative insights enhance the depth of our quantitative findings. This table highlights the multidimensional impacts of EL on both radical and incremental innovation, integrating insights from quantitative metrics and qualitative narratives."

Table 5.3: Comparison of Quantitative and Qualitative Findings

Main Themes	Quantitative Findings	Qualitative Insights	Interpretive Summary
Entrepreneurial Leadership (EL)	Quantitative analysis confirmed that EL significantly influences Radical Innovation (RI) and Incremental Innovation (II) with high coefficients.	CEOs view EL as a core driver of organizational success, focusing on adaptability, market awareness, and operational efficiency.	EL serves as the foundational driver for fostering both RI and II, aligning leadership with innovation strategies effectively.
Innovation Culture (IC)	IC mediates the impact of EL on both RI and II, enhancing creativity and collaboration across teams.	Innovation is perceived as an "ecosystem of creativity," cultivated by CEOs emphasizing collective and supportive organizational values.	IC acts as a medium through which EL facilitates innovation; the culture built by EL leaders emphasizes risk-taking and creativity.
Decentralization Structure (DS)	DS mediates EL's effect on II, with strong impacts on incremental improvements but limited on radical shifts.	Senior leaders value DS for empowering teams to respond rapidly to market changes, aligning with autonomy and agility.	DS is suitable for supporting II but requires more structured oversight from EL leaders for RI to achieve transformative innovation.
Knowledge Sharing (KS)	Quantitative findings indicate KS positively affects II but negatively impacts RI.	Leaders acknowledge KS's dual role; while beneficial for gradual improvement, excessive structure can stifle radical innovation.	KS is complex in fostering innovation. While it encourages II, unrestricted knowledge exchange may limit disruptive creativity.

Table 5.3 continued

Technological Turbulence (TT)	**TT strengthens EL's impact on DS, facilitating quicker, tech-adaptive decision-making structures.**	**CEOs emphasize agility in a volatile environment, stressing adaptive structures to maintain innovation in tech-driven changes.**	**TT enhances EL's adaptive strategies, underscoring a flexible structure and DS emphasis, especially relevant for II amid rapid tech shifts.**
Environmental Dynamism (ED)	ED intensifies the effect of EL on DS and KS, bolstering adaptability in dynamic market conditions.	Leaders see ED as a motivator for agility; EL leaders encourage responsive structures and innovative adaptations.	ED supports EL-led structures that prioritize agility and decentralized decision-making to accommodate continuous market shifts.
Market Orientation (MO)	MO moderates the relationship between EL and DS, amplifying customer-driven innovation needs.	CEOs recognize MO's importance in aligning innovation with customer demand, with a focus on customer-centric product development.	MO enables EL to adjust organizational strategies, particularly through DS, to stay competitive in meeting customer needs effectively.

In summary, the integrated findings reveal that Entrepreneurial Leadership (EL) functions as a critical driver for fostering both Radical Innovation (RI) and Incremental Innovation (II) within Chinese Internet Enterprises (CIEs). EL's influence on innovation is mediated by organizational factors—namely, Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS)—and moderated by external conditions like Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO). Quantitative data confirms EL's significant role across both innovation types, while qualitative insights illustrate that leaders foster an innovation-centric culture grounded in collaboration and resilience. This culture fuels II by encouraging iterative improvements and supports RI through a focus on strategic creativity and risk-taking. Additionally, DS allows agile decision-making, particularly aiding II by decentralizing operational choices, whereas

RI benefits from more centralized oversight, where CEOs play a hands-on role in guiding major transformations. KS further exhibits a dual impact: it promotes II through resource-sharing but can restrict RI by reinforcing existing norms, highlighting the need for EL to tailor KS based on the nature of innovation.

The moderating external factors—TT, ED, and MO—underscore the need for EL to adaptively steer these structures within volatile environments. Both data sources affirm that EL becomes more influential amid uncertainty, with TT and ED prompting leaders to adopt more flexible DS while selectively managing KS to prevent rigidity in RI efforts. The qualitative findings also illustrate that Chinese leadership philosophies, including Confucianism, Daoism, Legalism, and Communism, offer a cultural lens through which EL is enacted within CIEs. Confucian emphasis on harmony aligns with IC's collaborative ethos, Daoist flexibility supports DS's responsiveness, and Legalist structure informs KS's role, while the collectivist principles of Communism encourage alignment with government initiatives and customer-focused innovation. Altogether, these findings emphasize that EL's effect on innovation is deeply interconnected with organizational and environmental factors, strategically mediated and moderated through a culturally nuanced approach that enhances both RI and II in the dynamic landscape of CIEs.

5.5 Theoretical and Practical Contributions of the Research

This research makes significant contributions to the theoretical understanding of leadership and innovation in Chinese Internet Enterprises (CIEs) by deepening and extending the application of Upper Echelons Theory (UET) and the Resource-Based View (RBV).

Aligned with UET, the findings emphasize the pivotal role of CEO characteristics, particularly entrepreneurial leadership (EL) behaviours, in shaping organizational outcomes. Traditional applications of UET have predominantly focused on top executives' demographic attributes, such as age, education, and tenure, to explain their decision-making and strategic choices. However, this study moves beyond demographic proxies by emphasizing leadership behaviours as central to how CEOs influence organizational culture, structure, and knowledge-sharing processes—critical factors in fostering innovation. By demonstrating the importance of leadership behaviours, this research expands the theoretical scope of UET, addressing a notable gap in prior studies, which often overlooked the behavioural and cognitive dimensions of CEOs in shaping organizational performance. This perspective enhances UET by incorporating the leadership point of view, highlighting CEOs as the primary drivers of innovation within organizations.

Additionally, this study contributes to UET by focusing on the CEOs' direct role in organizational output, particularly in the Chinese context, where Confucian values reinforce the significant influence of top leaders. Past research under UET has often neglected the specific role of CEOs in influencing innovation performance and strategic outcomes. This study fills that gap by examining how entrepreneurial leadership directly impacts innovation, demonstrating that CEOs—as the most powerful decision-makers in hierarchical, Confucian-influenced cultures—play a critical role in fostering both radical and incremental innovation. By exploring UET in the context of Chinese enterprises, this research extends the applicability of UET from its Western origins to Eastern settings, providing a broader, global relevance to the theory and showing how leadership behaviours in non-Western cultures can significantly shape organizational outcomes.

In tandem with UET, this research utilizes the Resource-Based View (RBV) as a complementary lens to explore how entrepreneurial leadership influences the allocation and utilization of resources for innovation. While UET offers insights into why top executives' behaviours influence firm performance, RBV delves into the mechanisms through which leadership behaviours impact organizational resources. This study uncovers the "black box" of leadership influence on innovation by examining how EL drives innovation culture (IC), decentralization structure (DS), and knowledge sharing (KS), identified as intangible resources critical for innovation success. RBV provides a more strategic perspective on how entrepreneurial leaders utilize these resources to enhance both radical and incremental innovation.

A key theoretical contribution of this study is the nuanced understanding of how resource management differs for radical and incremental innovation. While innovation culture positively drives both types of innovation, the role of decentralization and knowledge sharing varies. This research finds that decentralization is more effective for incremental innovation, whereas knowledge sharing has a negative impact on radical innovation—challenging prior assumptions in the RBV literature. These findings contribute to a more refined understanding of how entrepreneurial leadership interacts with organizational resources to create competitive advantage, further enriching the RBV framework.

Moreover, this study extends the discussion by integrating moderating factors such as Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO), which shape the relationship between CEOs' leadership behaviours and organizational resources. By showing how external environmental factors influence the effectiveness of IC, DS, and KS, this research enhances both UET and RBV by highlighting

the contextual nature of leadership decisions. The interplay between leadership, resources, and external conditions adds a dynamic dimension to both theories, illustrating that contextual adaptability is crucial for successful innovation management.

In summary, this research makes a substantial theoretical contribution by (1) expanding the application of UET to leadership behaviours and innovation outcomes, (2) integrating RBV to uncover the resource mechanisms through which entrepreneurial leadership drives innovation, and (3) incorporating moderating factors to offer a more nuanced, context-sensitive understanding of how CEOs influence organizational performance in dynamic environments like CIEs.

This research has also gone beyond theoretical contribution to provide valuable insights into practical contributions on CIEs and all other innovation-seeking industries in China. This research offers substantial practical insights into how entrepreneurial leadership (EL) drives innovation in Chinese Internet Enterprises (CIEs) and other innovation-seeking industries. The study reveals that EL catalyses both radical (RI) and incremental innovation (II) through the strategic interplay of internal and external factors, enriching the practical application of Upper Echelons Theory (UET) and Resource-Based View (RBV) in the context of innovation management.

The findings underscore the need for organizations to cultivate entrepreneurial leadership at all levels, enabling leaders to foster innovation by embracing risk, vision, and creativity. For businesses aiming to balance radical and incremental innovation, EL’s influence on both forms of innovation is pivotal. Companies must re-evaluate their leadership development programs, emphasizing entrepreneurial traits that enhance leaders' capacity to steer innovation in dynamic environments. This includes fostering an innovation-

centric culture, where creative thinking, experimentation, and risk-taking are integral values championed by leadership.

Organizational resources—including innovation culture (IC), decentralization structure (DS), and knowledge sharing (KS)—emerge as key mediators in the relationship between EL and innovation outcomes. Leadership should strategically align these resources to ensure that incremental innovation is supported by decentralized structures, enabling teams to respond quickly to changing customer needs. At the same time, when radical innovation is pursued, a centralized decision-making structure, such as a spin-off unit, may be more effective in driving disruptive breakthroughs. The study highlights the importance of adapting organizational structures and resources to align with the specific type of innovation being targeted.

The findings also challenge traditional assumptions about knowledge sharing. While KS is often viewed as a driver of innovation, this study reveals that excessive knowledge sharing can inhibit radical innovation, as it may limit the diverse thinking required for groundbreaking ideas. Therefore, organizations must strike a balance, ensuring that knowledge-sharing practices support incremental improvements without stifling the disruptive thinking needed for radical innovation.

In addition, external environmental factors—such as Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO)—play a moderating role in shaping the effectiveness of entrepreneurial leadership. In turbulent or dynamic environments, decentralized structures allow firms to adapt more swiftly to market changes and technological advancements, fostering incremental innovation. However, knowledge-

sharing strategies must be handled carefully in these contexts, as they can negatively impact the pursuit of radical innovation.

The study's practical contributions emphasize the need for a holistic approach to managing innovation. By aligning entrepreneurial leadership with organizational resources and external environmental conditions, firms can enhance their innovation capabilities and gain a competitive advantage. The dynamic interplay between leadership behaviours, internal resources, and external moderators offers a comprehensive framework for organizations seeking to foster both incremental and radical innovation in a rapidly changing business landscape.

This research provides a roadmap for CEOs and organizational leaders to refine their leadership strategies, optimize internal structures, and adapt to external challenges in ways that drive sustainable innovation. By leveraging these insights, businesses can better manage the complex dynamics of innovation and position themselves for long-term success.

5.6 Revised Framework

The original conceptual framework for this study was developed based on a synthesis of existing literature and theoretical constructs. It included the core components of Entrepreneurial Leadership (EL) as the central independent variable, with Innovation Culture (IC), Decentralization Structure (DS), and Knowledge Sharing (KS) as mediating variables influencing Radical Innovation (RI) and Incremental Innovation (II). The framework also incorporated the moderating effects of Technological Turbulence (TT), Environmental Dynamism (ED), and Market Orientation (MO) on the relationships between EL and mediators (IC/KS/DS).

Upon conducting extensive empirical analysis, including quantitative hypothesis testing and qualitative interviews, the research findings have led to a revised framework that reflects the complex interplay of these variables within the context of CIEs. The revised framework aligns with many aspects of the original conceptualisation and introduces several critical insights. It underscores the pivotal role of EL in driving innovation within CIEs. EL catalyses Radical Innovation (RI) and Incremental Innovation (II) and indirectly influences innovation outcomes through the identified mediators and moderators. Radical Innovation and Incremental Innovation are distinct but equally valuable outcomes, highlighting the need for organisations to balance radical transformation and incremental improvement in their innovation strategies.

Regarding mediators, Innovation Culture (IC) has been confirmed as a potent mediator between EL and innovation outcomes. Furthermore, Decentralisation Structure (DS) and Knowledge Sharing (KS) have demonstrated their roles in promoting Incremental Innovation (II) and negatively affecting Radical Innovation, respectively. These mediating factors reinforce the importance of optimising organisational structures and processes to align with targeted innovation types.

In addition to these established mediators, qualitative insights from interviews have revealed the emergence of National Policy, Resource Availability, and Operation Efficiency as potential mediators. National Policy emerged as a crucial external factor, highlighting how government initiatives, such as subsidies and regulatory frameworks, shape innovation strategies. This aligns with studies on the impact of government policies on innovation capacities. Resource Availability, particularly financial and human capital, was identified as a key internal mediator, demonstrating how resource constraints or abundance influence the

scale and type of innovation pursued, complementing the Resource-Based. Operational Efficiency also emerged as an important factor, illustrating how streamlining processes enables faster decision-making and resource allocation, which supports innovation. These qualitative insights provide a more nuanced understanding of the conditions influencing EL's effectiveness in driving innovation, expanding on the quantitative findings by highlighting the broader external and internal organizational factors that mediate innovation processes. Together, they deepen the theoretical framework by integrating both external and internal elements that shape the innovation process in Chinese Internet Enterprises. These factors, which emerged as crucial themes during qualitative interviews with senior managers, highlight the broader external and internal organisational conditions that influence the effectiveness of EL in driving innovation.

By identifying these emergent mediators from qualitative data, the revised framework expands beyond conventional internal organisational mediators (i.e., IC, DS, and KS) to include broader environmental and resource-based factors. These potential mediators provide a deeper understanding of how EL translates into RI and II outcomes under various organisational contexts.

Regarding moderators, TT and ED continue to play significant roles in shaping the relationship between EL and mediators (DS and KS), while MO only moderates DS. This extension further elucidates the mechanisms through which EL drives innovation by integrating both mediators and moderators into the framework.

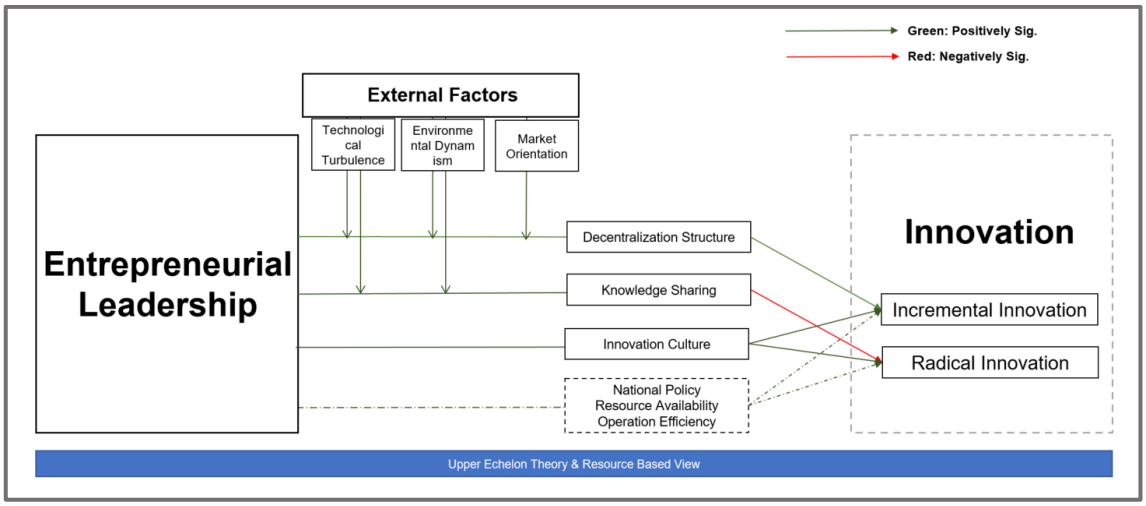


Figure 5.2: Revised Framework of This Study

To summarise, the revised framework (Figure 5.1) encapsulates the dynamic and multifaceted relationships between EL, mediating variables, external moderators, and innovation outcomes. The addition of National Policy, Resource Availability, and Operation Efficiency as emerging mediators derived from qualitative insights offers a more nuanced understanding of the complex innovation processes within CIEs. This framework provides actionable insights for organisations aiming to enhance innovation performance, develop more effective strategies, and adapt to changing environmental factors for competitive advantage.

5.7 Recommendations

In the rapidly evolving landscape of the internet industry and across various sectors in China, there is a pressing need for strategic innovation. Chinese enterprises must adopt a multifaceted approach to thrive in this environment, considering their unique context and challenges. In this section, recommendations are provided to CIEs based on all previous discussions of this research, focusing on fostering innovation while acknowledging the specific dynamics at play.

Considering the study's findings, organisations should consider fostering entrepreneurial leadership (EL) qualities within their leadership teams. CEOs and top executives should be encouraged to develop entrepreneurial leadership styles to inspire innovation. Training programs and leadership development initiatives can be tailored to instil these characteristics, ultimately contributing to enhanced innovation performance. Even though there are various types of leadership styles adopted among different companies in different industries, if the intention is to innovate, entrepreneurial leadership should be taken with consideration. Many CEOs in China started their companies without many leaderships know-how, and especially for CEOs in internet industry, most of whom worked as engineers before establishing business. Therefore, the need for building up a strong entrepreneurial leadership on CEOs themselves has become a top priority for CEOs in China.

Besides, it is crucial to nurture a culture of innovation within the organisation to facilitate radical and incremental innovation. A work environment encouraging creativity, risk-taking, and open idea-sharing can significantly influence innovation outcomes. This involves creating innovation-driven incentives, establishing cross-functional teams, and providing resources for idea development and experimentation. Through this study, it has been proved that a well-established innovation culture can not only contribute to continuous innovation, but also motivate radical innovation to happen. The innovation culture can link the entrepreneurial leadership well with the innovation performance of the organization. For management teams and human resource functions, it is highly recommended to aware the importance of innovation culture. Only with innovation culture, can entrepreneurial leadership better stimulate innovation by letting every member of organization immerse in the atmosphere of innovation.

Organisations should also pay attention to their internal structures to optimise incremental innovation performance. As what was discussed before, for incremental innovation, decentralisation structures can provide greater autonomy and decision-making power at the lower levels of the organisation. With the size and complexity of products, services become larger, always teams are divided by the modules and functions. The scattered teams or function teams need to have their own autonomy to do quick decision if they want to meet the consistently changing demands from customers. That is reason why for organizations hope to grasp the needs of customers without delay, they should adopt decentralization structure to stimulate incremental innovation. Meanwhile in contrast, decentralization is not necessary for radical innovation since a more centralized decision should be in need for a big change to happen. Based on all of this, it is suggested that when designing organizational structures, CEOs should think firstly on which products are in the phase of incremental innovation and what others should be treated as experiment to stimulate radical innovation. Considering that, the incremental innovation-oriented departments should adopt decentralization structure to empower them to have autonomy, while for the radical oriented ones, it would be wiser for CEOs to directly hold the power and by utilizing the central united power to let big things happen.

If innovation culture and decentralization structure can be suggested to adopt in CIEs based on situations, knowledge sharing should be more seen as a dragging force on innovation. The argument is not in the common senses and always out of CEOs' expectation. In China, when talking about innovation, knowledge sharing is one of the buzz words that mentioned by various types of organizations. People tend to believe a good sharing on knowledge can enable the good practices can be learnt and permeated in organizations and thus improve innovation. However, this study pointed out it may be a big mistake. As

explained in this study, a higher knowledge sharing not only have no good for promoting incremental innovation, but also hinder the emergence of radical innovation. The fact is, when people are 'forced to learn', considering the 'obey' philosophies as discussed previously, employees may take the shared knowledge as guidelines, or even rules that they must follow. This dangerous mindset prohibits people to try new with fear of doing wrong. Because of that, this study highly recommends that CEOs should take a second consideration when building knowledge sharing system inside company or at least they should evaluate how employees see the knowledge sharing means. Organizations should explain well on the knowledge sharing is just 'for reference' but not for 'guidelines', or else it will be risky for organization to invest much but gain with big loss.

Furthermore, this study acknowledges the moderating effects of technological turbulence (TT), environmental dynamism (ED), and market orientation (MO) on their influence of organizations strategy choice. Under all situations, organizations tend to adopt decentralization structure, but CEOs should know the decentralization structure's only effect on incremental innovation. But the good news is that no matter whether moderators exist or not, the strategy on innovation culture is never neglected, which provide a basis for entrepreneurial leaders to promote both radical innovation and incremental innovation. Last, attentions should be paid that under TT and ED, CEOs tend to adopt knowledge sharing, and this is not encouraged as what has been discussed. CEOs need to hold this intention and evaluate twice on this knowledge sharing strategy. This study suggest that it should be more cautious when adopting knowledge sharing and leaders should pay more time on the build-up of innovation culture and decentralization structure. Beyond all the factors discussed above, this study further discovered that national policy, resource availability, and operation efficiency act a positive role for entrepreneurial leadership to drive innovation. Though these

factors emerge from the qualitative findings, it provides a broader view for organizations to consider when designing the organization toward innovation.

In short, to ensure long-term success, organisations should adopt a continuous monitoring and adaptation approach with carefulness. Organizations should only adopt the effective empirically tested strategies only instead of thoughts from gut feelings. Considering the complicated interplay between the innovation-driving factors, regular evaluations of their organizational strategies, leadership styles, and environmental contexts are necessary. CEOs and leaders should utilize the findings and design a comprehensive framework to enable innovation to happen, which enable the organizations to stand thrive in the competitive market and win from competitors.

5.8 Limitations of the Study

While this research has contributed significantly to the understanding of the relationships between CEOs' entrepreneurial leadership, organisational dynamics, and innovation performance within CIEs, it is essential to recognise the inherent limitations accompanying this empirical study. These limitations offer transparency and serve as avenues for future research exploration.

First, the limitation lies in the generalizability of the findings. This study primarily focuses on CIEs, acknowledging China's unique cultural, regulatory, and business landscape. As such, direct applicability to firms operating in markedly different contexts may be limited. The importance of contextual factors in leadership and innovation must be considered, and future research should aim to explore these dynamics across diverse global settings.

Second, the reliance on cross-sectional data presents a temporal limitation. The data captured represent a snapshot of the relationships at a specific point in time. Longitudinal studies tracking changes and developments over extended periods will provide a more nuanced understanding of how leadership behaviours and organisational factors evolve and influence innovation performance over time.

Furthermore, more measurement techniques can be applied into this research beyond the quantitative and qualitative research method adopted in this study, to provide more objectivity to the study of leadership behaviours. By introducing further supplement techniques, more precise and comprehensive insights can be expected to uncover the leadership's cognitive and physiological underpinnings.

Lastly, the study's choices of external moderating factors may only encompass part of the spectrum of contextual influences. Industry-specific variables, geopolitical considerations, and other regional factors may also play pivotal roles in shaping innovation dynamics, thus warranting further exploration.

In short, while this study contributes substantially to the understanding of leadership and innovation in CIEs, it does so within certain limitations. These limitations serve as catalysts for future research, calling for a broader exploration of contextual factors, longitudinal analyses, and more research methods to deepen the comprehension of leadership's role in fostering innovation performance.

5.9 Future Research

By providing conclusion to this study, it becomes evident that the landscape of leadership, organisational dynamics, and innovation within CIEs is with opportunities for

future research. These opportunities span a spectrum of dimensions, each offering unique insights and avenues for exploration.

First there is the need for comparative research that transcends borders. Multinational comparative studies could extend the findings beyond the confines of the CIEs context. Such analyses would encompass diverse cultural, regulatory, and industrial landscapes, shedding light on the universality or context-specific nature of the relationships this research have unveiled.

Another critical dimension for further study lies in the temporal aspects of research. Longitudinal investigations could offer a deeper understanding of how leadership behaviours evolve and their sustained influence on innovation performance. By tracking these dynamics over extended periods, further studies can uncover the longevity and stability of these relationships.

Furthermore, incorporating advanced measurement techniques, such as neuroimaging or physiological markers, and traditional self-reported data can introduce objectivity to assessing leadership behaviours. These techniques may provide more precise and comprehensive insights into leadership's cognitive and physiological underpinnings.

Last, considering the unexplored aspects of external environmental factors, future research should explore and examine more additional contextual variables that influence leadership and innovation. This may encompass regulatory changes, industry-specific forces, and geopolitical influences that shape the leadership-innovation landscape.

In short, this study has illuminated critical linkages between CEOs' entrepreneurial leadership, organisational dynamics, and innovation performance within CIEs. These

avenues for future research collectively represent opportunities for scholars and practitioners to advance the understanding of leadership's multifaceted role in fostering innovation and achieving excellence in an ever-evolving global landscape.

5.10 Conclusion of Chapter

This chapter discussed the key findings of the study and explores their contributions for UET/RBV theories and practical applications. A refined framework was proposed and limitations were outlined for guiding future research. While acknowledging the limitations, the study addresses these constraints and identifies them as potential areas for future research into the relationship between EL and innovation performance.

The central focus of this study is on evaluating how entrepreneurial leadership influence innovation performance, considering the mediating and moderating roles played by internal and external factors in CIEs. The main findings, backed by qualitative insights, go beyond traditional views of entrepreneurial leadership and highlight its influence on radical innovation and incremental innovation. Therefore, this research validates concerns about the influence of entrepreneurial leadership on innovation, an aspect often overlooked in leadership discussions. It outlines the nuanced roles of internal and external factors in fostering/hindering both radical and incremental innovation in companies that prioritize innovation in CIEs. CEOs may struggle to fully utilize entrepreneurial leadership to drive innovation without understanding the complex relationships between their leadership style and organizational dynamics, which this study contributes to do clarify. This awareness is crucial for CEOs in CIEs to design management policies and tools in line with innovation expectations.

Drawing on Burns (2020)' insights, "The concept of the entrepreneurial leader is subtly different to other leadership typologies. They are focused primarily on creating a willingness and ability to search for and exploit economic opportunity. They are both visionary and transformational but, importantly, they set out to distribute but also embed leadership into the organization." Consequently, future studies on the relationship between entrepreneurial leadership and innovation performance should pay close attention to these dynamics.

Highlighting the crucial role of high-tech industries in economic transformation in China, the study underscores the imperative for firms to innovate in today's competitive landscape. It emphasizes the contributions of entrepreneurial leadership to innovation performance in CIEs, affirming the essential role of entrepreneurial leadership in navigating contemporary business challenges.

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APPENDICES

Appendix A: INSTRUMENTAL QUESTION LIST

Instrument		Items:	Sources
ENTREPRENEURIAL LEADERSHIP	Framing challenges	(My CEO) Seeks continuous performance improvement	Bagheri and Harrison, 2020
		Sets high performance expectation for organisational development	
		Sets task goals according to the staffs' ability	
		Sets a creative plan for the business	
		Spends time on new strategies for organisation development	
	Absorbing uncertainty	Anticipates possible future events	
		Thinks ahead about new developments that will occur in the sector we are active in	
		Undertakes business risk to reduce the uncertainty in followers' work	
		Promotes an environment where risk taking is encouraged	
	Underwriting	Negotiates effectively to eliminate the obstacles in followers' work	
		Shows empathy towards his/her followers	
		Makes staff enthusiastic for his/her ideas	
		Inspires emotions, beliefs, values, and behaviours of followers	
		Inspires passion for new idea generation and exploitation of followers	
	Building commitment	Recruits team-oriented staff	
		Acquires followers' identification with organisational change	
		Acquires followers' identification with organisational change Motivates followers' commitment to the goals of organisational development	
		Prioritizes tasks required for organisation's success	
		Communicates effectively with followers	
		Listens and acts upon organisation stakeholders' complaints	
	Defining gravity	Integrates people or things into a cohesive, working whole	
		Makes decisions firmly and quickly	
		Specifies the business scope of the organisation to suggest what can or cannot be done	

		Understands limitations of organisational ability to avoid unnecessary resource	
		Demonstrates the ability to manage time effectively	
	Opportunity identification and exploitation	Recognises existing market opportunities	
		Adjust his/her planning approach when new opportunities arise	
		Actively identifies, develops and goes after new business opportunities	
		Has insight into the market and business competition	
		Points out the competition's weaknesses and how we could exploit them	
		Often comes up with radical improvement ideas for the products/services we are selling	
		Pushes staff to be innovative in how we do our work	
		Allots time to helping staff find ways to improve our business innovation and opportunity recognition performances	
		Creates a climate that encourages continuous innovation and opportunity recognition	
		Creates an environment where organisation staff feel free to try new things	
	Orientation towards learning	Shows awareness of their strengths and weaknesses	
		Seeks continuous self-improvement	
		Leads their followers by serving as role models	
		Focuses on staff training	
		Keeps the organisation informed and updated on new educational trends and methods to improve staffs' learning and achievement	
Innovation	Radical Innovation	We accept demands that go beyond existing products and services	Sheng and Chien (2016)
		We invent new products and services	
		We experiment with new products and services in local markets	
		We commercialize products and services that are completely new	
		We frequently search and approach new clients in new markets	
		We frequently refine the provision of existing products and services	

	Incremental Innovation	We regularly implement small adaptations to existing products and services	
		We introduce improved but existing products and services for local markets	
		We improve our provision's efficiency of products and services	
		We increase economies of scales in existing markets	
Technological turbulence		The technology in our industry is changing rapidly	Wilden and Gudergan (2015)
		It is very difficult to forecast where the technology in our industry will be in the next two to three years	
		A large number of new product ideas have been made possible through technological breakthroughs in our industry	
		The technological changes in this industry are frequent	
Environmental dynamism		Changes in our market are intense	Surty and Scheepers (2020)
		Our clients regularly ask for new products and services	
		In our market, changes are taking place continuously	
		In our market, the volumes of products and services to be delivered change fast and often	
Market Orientation		My organization strongly emphasizes customer satisfaction	Dutta et al. (2016)
		My organization places strong emphasis on understanding customer needs	
		My organization cares about customer experiences and feedback	
		My organization is willing to respond quickly to customer suggestions	
		My organization focuses on providing customers with superior service	
Innovative Culture		My company encourages creativity, innovation and/or the development of new ideas, as cultural values	Martín-de Castro et al. (2013)
		A common system of values, beliefs and objectives exists in my company, directed towards innovation	
		My company encourages experimentation and innovation in order to improve work effectiveness	

Decentralization structure	Firm leaders use subordinates' suggestions to make decisions that affect them	Li et al. (2018)
	Firm leaders listen to subordinates' ideas and suggestions	
	Firm leaders encourage subordinates to express ideas/ suggestions	
	Firm leaders give all subordinates a chance to voice their opinions	
Knowledge sharing	When I learn something new, I will tell my colleagues.	Kim and Lee(2013)
	I will share what I knew with my colleagues	
	It is very important for colleagues to know what I am doing.	
	I often tell my colleagues what I am doing.	

Appendix B: INTERVIEW QUESTIONS

Introduction:

Thank you for participating in this research interview. The purpose of this study is to explore the role of leadership, particularly the CEO's entrepreneurial leadership behaviours, in driving innovation performance within internet firms in China. We are particularly interested in understanding the behaviours and actions exhibited by the CEO that contribute to innovation within the organization. Your insights and experiences as a senior manager who closely observes the actions and behaviours of the CEO are crucial in helping us gain a comprehensive understanding of this topic. Please feel free to provide as much detail as possible in your responses. All the information you provide will be kept confidential and used for research purposes only.

Before we start, I would like to make sure we are both talking about the same things. Can you please share with me your understanding of the word's innovation? How about Entrepreneurial Leadership?

1. Can you briefly describe your role and experience as a senior manager within your internet firm?
2. What are the innovation products produced in the past 3 years? Are they incremental innovation products or radical ones?
3. What specific behaviours or actions does the CEO demonstrate to encourage innovation? Can you share any specific examples or instances where you have observed the CEO positively influencing innovation performance?
4. Can you share any challenges or obstacles you have observed the CEO facing while trying to drive innovation within the organization? How has the CEO addressed or overcome these challenges? Can you please illustrate with examples?

5. How do external factors influence the relationship between the CEO's leadership and innovation performance in the organization? How have you observed the CEO navigating these external factors to foster innovation?
6. Based on your observations and experiences, what recommendations or best practices would you suggest for the organization to enhance the positive influence of the CEO's leadership on innovation performance? Are there any specific strategies or initiatives that you believe would be effective more for radical and incremental innovations respectively?

Thank you for your valuable insights and contributions to this study! Your participation is appreciated and will contribute to advancing our understanding of the topic.