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# Unravelling the dimensions of diversity: Investigating the impact of gender, age, ethnicity, cultural background and cognitive diversity on innovation in Chinese organizations

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## Abstract

This research endeavoured to investigate the profound relationship between various diversity dimensions and innovation within Chinese organizations. Anchored by the principal objective to offer an intricate understanding of how gender, age, ethnicity, cultural background and cognitive diversity influence innovation, the study sought to comprehend this dynamic in the unique socio-cultural backdrop of China. Moreover, the exploration extended to understanding the combined effects of these diversity dimensions on innovation, as well as discerning the moderating role of organizational factors, including size, industry type and location on the diversity-innovation linkage. Adopting a quantitative research paradigm, data were gathered through 300 online surveys, targeting working professionals across different Chinese organizations. This methodological approach aimed to achieve both breadth and depth in responses, ensuring a holistic representation of the diverse organizational landscape in China. Key findings unveiled that individual diversity dimensions, notably age, cultural background and cognitive diversity have positive correlations with innovation. The combined diversity dimensions, represented as an aggregate score, further reinforced this positive association. However, when introduced to moderating variables, nuanced relationships emerged. Organizational size did not showcase a significant moderating effect on the diversity-innovation relationship. Intriguingly, the nature of the industry displayed varying effects, with service-based (tertiary) industries benefiting the most from diversity in the context of innovation. Additionally, city tiers also moderated the relationship such that the benefits of diversity on innovation were more pronounced in cosmopolitan tier 1 cities. In summation, this study contributes valuable insights to the academic understanding of the interplay between diversity and innovation, especially within the Chinese context.

**Keywords:** diversity; innovation; Chinese organizations; cognitive diversity; organisational factors; demographic diversity

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**Received:** June 28, 2025. **Revised:** August 26, 2025. **Editorial decision:** September 3, 2025. **Accepted:** September 17, 2025

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## **1. Introduction**

Over the past decades, the concept of diversity in the workplace has attracted significant attention both in academic research and among practitioners (Herring, 2009; Gomez & Bernet, 2019). The increasing globalization of business and the demographic changes in labour markets worldwide have contributed to more heterogeneous workforces in many organizations (Tamunomiebi & John-Eke, 2020). Concurrently, there has been growing recognition of innovation as a crucial driver of organizational success in an increasingly competitive and fast-paced business environment (Fellnhöfer, 2017).

As the world's most populous country and second-largest economy, China provides an interesting context to explore the relationship between diversity and innovation. With rapid economic growth and increasing participation in the global market, Chinese organizations are experiencing significant changes in their workforce demographics (Froese et al, 2019). For example, in 2020 women constituted 44.7% of the total employed persons in China (National Bureau of Statistics of China, 2021), while the population's age structure is also changing due to shifts in birth rates and life expectancy with a 5.9% drop in the working age population between 2012 and 2022 (Statista, 2023).

Moreover, innovation has been highlighted as a strategic priority by the Chinese government in its "Made in China 2025" initiative, aiming to upgrade the country's manufacturing sector and boost technological innovation (Zhao & Lee, 2021). Thus, understanding the impact of diverse workforces on innovation within Chinese organizations becomes increasingly pertinent. This research seeks to delve into this compelling topic, unpacking the multifaceted dimensions of diversity and investigating their implications for innovation.

### **1.1 Research rationale**

The rationale for this research lies in the importance and timeliness of its focus on the impact of workforce diversity on innovation within Chinese organizations. As China continues its trajectory of rapid economic growth, the ability of its organizations to innovate is increasingly crucial (Gu & Wang, 2022). However, the role of employee diversity in facilitating innovation remains under-explored, particularly within a Chinese context (TshetsHEMA & Chan, 2020), as this research aims to bridge this gap.

Recent statistics by the National Bureau of Statistics of China (2021) indicate that China's population is diversifying along multiple dimensions including age, ethnicity, cultural background, and cognitive diversity. Consequently, Chinese organizations are encountering an increasingly heterogeneous workforce (Huang et al, 2018), as understanding the implications of this diversity on innovation can provide insights for Chinese organizations to harness the potential of their diverse workforce effectively.

Furthermore, the study of diversity in the Chinese context is crucial due to the unique cultural, societal, and economic factors at play (Postiglione, 2014). Cultural norms, institutional systems, and government policies in China can influence the management and outcomes of diversity in ways distinct from Western contexts (Barkema et al, 2015). Hence, exploring the diversity-innovation relationship in China contributes to a more comprehensive, global understanding of the phenomenon. Nonetheless, the investigation of the various dimensions of diversity separately and

collectively can offer nuanced insights for practitioners. Organizations can use this knowledge to design and implement targeted diversity strategies that drive innovation, contributing to their competitiveness and success.

## **1.2 Research aims & objectives**

This research aims to investigate the impact of diversity, encompassing gender, age, ethnicity, cultural background and cognitive diversity on innovation within Chinese organizations. The research aims to provide a nuanced understanding of how these individual and collective dimensions of diversity influence innovation, situated within the unique Chinese context. In order to achieve the proposed research aim, the following research objectives are pursued:

1. To explore the impacts of gender, age, ethnicity, cultural background and cognitive diversity on innovation of Chinese organisations.
2. To examine the combined effects of these diversity dimensions on innovation in Chinese organisations.
3. To understand the moderating role of organizational factors, such as size, industry and location on the diversity-innovation relationship amongst Chinese organisations.

The ultimate goal of this research is to contribute to the academic understanding of the diversity-innovation relationship, particularly within the context of China. Additionally, it seeks to provide practical insights for Chinese organizations by identifying which aspects of diversity exert the most significant influence on innovation, organizations can focus their diversity efforts for maximum impact, fostering a more innovative and competitive workforce.

## **1.3 Research questions**

The overarching question this research aims to answer is:

***How do various dimensions of diversity influence innovation within Chinese organizations?***

In pursuit of this primary question, the research further delves into the following specific sub-questions:

1. How does each diversity dimensions such as gender, age, ethnic, cultural background and cognitive diversity impact innovation in Chinese organizations?
2. How do these dimensions of diversity, when considered together affect innovation in Chinese organizations?
3. How do contextual factors, such as organizational size, industry and location, moderate the relationship between diversity and innovation in Chinese organizations?

## **1.4 Research significance**

This research holds significant implications both academically and practically, contributing to our understanding of diversity and innovation and offering valuable insights for organizations, particularly within the Chinese context.

This research expands the existing body of knowledge on the diversity-innovation relationship by investigating the separate and combined impacts of multiple dimensions of diversity. Most existing studies have either considered diversity broadly or focused on a single dimension (Budescu & Budescu, 2012; Lindgren, 2016; Michie & Oughton, 2013). By dissecting the various diversity dimensions, this research provides a more nuanced understanding of how diversity influences innovation. Furthermore, it explores this relationship within a Chinese context, contributing to a more global perspective on this issue. The study's findings could stimulate further research in this area, driving more comprehensive theories of diversity and innovation.

The research adds to theoretical discourse by examining the moderating role of organizational factors in the diversity-innovation relationship. The consideration of these contextual variables can help refine existing theories and models, making them more comprehensive and context-sensitive. Furthermore, the research findings have direct practical implications for Chinese organizations. By identifying which dimensions of diversity have the most significant impact on innovation, the research can guide organizations in developing targeted diversity strategies. Additionally, by considering the moderating role of organizational factors, the research provides insights for organizations to manage their diversity more effectively in relation to their specific contexts. Overall, this research aims to aid organizations in leveraging their diverse workforces for enhanced innovation and competitiveness.

## **1.5 Structure of study**

This study is structured into six chapters. Following this introductory chapter, Chapter 2 presents a detailed review of the literature on diversity and innovation. Chapter 3 explains the research methodology adopted for the study. Chapter 4 presents the data analysis and findings of the research. Chapter 5 discusses these findings in the context of the existing literature, and Chapter 6 concludes the study with a summary of key findings, recommendations for future research, and practical implications for Chinese organizations. This structure is designed to guide the reader logically through the research process and findings.

## **2. Literature review**

This chapter aims to provide an in-depth review of the existing literature concerning the diversity-innovation relationship. The review will navigate through various layers of analysis, from the concept of diversity and its measurements to innovation and its theoretical foundations, and how these two constructs interact under different cultural and contextual circumstances. In section 2.1, we explore the concept of diversity, starting from its broad definition and application within organizations (2.1.1). We then delve into how diversity has been measured in previous research (2.1.2), shedding light on the various dimensions of diversity that have been the focus of scholarly investigation.

Following that, section 2.2 turns its attention to innovation within organizations (2.2.1), detailing the theoretical frameworks that have been commonly used to understand and measure innovation (2.2.2). This section provides a comprehensive understanding of the concept of innovation as it has been applied in past research. Moving from the separate concepts of diversity and innovation, section 2.3 explores their intersection, discussing the theoretical links between diversity and innovation (2.3.1). The role of cultural factors in influencing the diversity-innovation relationship is analysed (2.3.1), as well as the role of contextual factors (2.3.2).

Finally, section 2.4 offers a summary of the literature reviewed, highlighting the research gaps that this study aims to fill. Based on this literature review, a research framework and set of hypotheses are proposed (2.4.1) to guide the empirical part of the study. Overall, this literature review chapter seeks to provide a comprehensive understanding of the existing research on the diversity-innovation relationship, laying the foundation for the subsequent investigation into this relationship in the context of Chinese organizations. The analysis of the literature will guide the methodological approach for this study and inform the interpretation of its findings.

## **2.1 The concept of diversity**

The conceptualization of diversity is a topic that has garnered extensive research attention in the academic literature over recent decades, often revealing differing interpretations and criticisms of its definition and applications. Cox (1994) initially described diversity as differences among members of a social unit, emphasizing its wide scope beyond just demographic characteristics. This idea is further supported by Harrison & Klein (2007), who argued that diversity could manifest through a variety of dimensions including, but not limited to, gender, age, ethnicity, cultural background and cognitive style. Another critical examination is by Foster (1993), who scrutinizes the concept of diversity as it is used to justify affirmative-action policies in various contexts, contending that the existing concept of diversity is somewhat "empty" as it homogenizes all differences, potentially promoting essentialism and further marginalizing certain differences by categorizing ostensibly acceptable criteria unrelated to merit.

Foster (1993) advocates for a broader understanding of diversity that encapsulates the acceptance and respect for the full spectrum of human characteristics in their socioecological, historical, and cultural contexts. This includes a wide array of dimensions such as age, ethnicity, class, gender, disability, physical abilities, race, sexual orientation, religious status, gender identity, and immigration status. Nonetheless, there's been significant debate surrounding the very definition and concept of diversity (Zink & McKittrick, 1995; Lammert & Sarkowsky, 2010). According to Lammert & Sarkowsky (2010) many empirical studies highlight the distinction between surface-level diversity, which encompasses easily observable attributes like age and gender, and deep-level diversity, referring to less visible characteristics like values and attitudes as shown the works of Harrison et al (1998). Alternatively, Roberson et al (2017) highlights the dimensionality of diversity, noting that it's not a singular, monolithic concept but a multifaceted one with each dimension contributing uniquely to organizational outcomes. Nonetheless, the conceptualization of diversity, therefore, remains complex and multifaceted, requiring a nuanced understanding when examining its impact on organizational outcomes.

### **2.1.1 Diversity in organisations**

Diversity within organizations refers to the existence of individual differences among employees, encompassing a variety of characteristics such as gender, age, ethnicity, cultural background and cognitive style (Dike, 2013). According to Harrison & Klein (2007), diversity is a multi-dimensional concept, manifesting in both visible attributes (gender and race) and less visible ones (cognitive style or cultural background). Organizational diversity has gained significant attention in management research over the past few decades, primarily driven by the demographic shifts in the workforce, globalization of businesses, and increasing awareness of social justice issues (Howard et al, 2017).

The nature of diversity's impact on organizational outcomes, however, has been a subject of ongoing debate, with research yielding mixed results according to Tardos & Paksi's (2018) review of empirical studies. The various dimensions of diversity can interact with each other and influence outcomes in different ways. For instance, some research indicates that demographic diversity (such as differences in age or gender) can lead to communication problems and conflicts, thereby affecting team performance negatively (Pelled et al, 1999). On the other hand, cognitive diversity (differences in perspectives or information processing styles) may enhance creativity and innovation, as it broadens the range of ideas and perspectives within the team as illustrated in the findings of Milliken & Martins' (1996) study.

Understanding diversity in organizations has been a pivotal area of study in the field of organizational behaviours, with several theories developed to explain its effects on team and organizational performance. The social identity theory proposed by Tajfel & Turner (2004) posits that individuals categorize themselves into different social groups based on certain attributes, such as gender or ethnicity, influencing their behaviours and interactions within a group setting. Another prominent theory in this domain is the information processing theory (Cox & Blake, 1991), which asserts that diverse teams, by virtue of their differing perspectives and experiences, have a larger pool of information to draw from compared to homogeneous teams. Alternatively, the resource-based view (RBV) theory is often applied to the concept of diversity as resources that are valuable, rare, inimitable, and non-substitutable can provide competitive advantage to an organization, viewing diversity as a strategic resource that can enhance organisational performance and competitiveness when managed effectively (Yang & Konrad, 2011).

### **2.1.2 Measurement of diversity**

According to Tang et al (2006), accurately measuring diversity in research remains a significant challenge due to its multidimensional nature and the complexity of individual differences. In the context of empirical literature, various approaches have been proposed and applied to measure diversity, with the choice often depending on the dimension of diversity in question and the context of the research. In terms of gender diversity, it is often operationalized as the proportion of female employees in an organization or team (Richard et al, 2014). Additionally, age diversity is typically measured using standard statistical dispersion measures such as range, variance, or standard deviation of ages in a group as shown in Joshi & Roh's (2009) meta-analytic review of diversity literature.

Ethnic diversity measurement often involves using an index of heterogeneity, such as Blau's index or the Herfindahl index, which capture the distribution of employees across different ethnic groups (Harrison & Klein, 2007). However, such measures can be sensitive to the categorization of ethnicities, which can vary between studies and contexts (Steele et al, 2022). Cultural diversity is somewhat more complex to measure due to the difficulty in defining and quantifying cultural differences. Stahl et al's (2010) study adopted objective indicators like the employee's nationality or language, while others may use subjective measures based on employee surveys capturing cultural values and norms (Taras et al, 2010).

On the other hand, cognitive diversity is often assessed through psychometric measures or surveys that capture differences in knowledge, perspectives, or information processing styles (Olson et al, 2007). Some studies also infer cognitive diversity from demographic or educational diversity, under the assumption that individuals with different backgrounds will bring diverse cognitive resources as shown in Van Knippenberg et al's (2004) integrative model approach. Additionally, Mello & Rentsch's (2015) multidisciplinary review of cognitive diversity in teams argues that empirical literature consists of varied conceptual and operational definitions restrict theory development and comparisons of empirical results, highlighting apparent research importance to explore further.

## **2.2 Innovation in organizations**

Innovation is increasingly recognized as a critical driver of organizational success, contributing to competitive advantage, business growth, and survival in rapidly changing market environments (Standing et al, 2016). Within the organizational context, innovation typically involves the creation and implementation of new ideas, processes, products, or services that deliver value (Castaner, 2016). The focus of empirical research on organizational innovation has considerably expanded in recent years. Studies have examined a broad range of factors influencing innovation, including leadership styles (Moussa et al, 2018), organizational culture (Cropley & Cropley, 2017), and internal and external knowledge exchange (Ferraris et al, 2017).

Innovation research has progressively moved beyond the traditional product-centric view to encompass various forms of innovation, such as process, organizational, and marketing innovations especially for small & medium-sized enterprises (Hossain, 2015). Moreover, there has been a growing interest in open innovation models, which advocate leveraging both internal and external ideas and paths to market (Yun et al, 2020). A key theme emerging from recent research is the role of diversity in fostering innovation, as many studies suggest that diverse teams, by virtue of their varied experiences and perspectives, can enhance creativity and innovation (Colovic & Williams, 2020; Hakovirta et al, 2020).

However, the relationship between diversity and innovation is nuanced, being influenced by factors like team processes and organizational context (Van Knippenberg, 2017). While the positive effects of innovation on organizational outcomes are well-documented, research also highlights potential challenges. Innovation can be risky, requiring significant investments of time and resources, and not all innovative efforts lead to successful outcomes as challenged by Bassett-Jones' (2005) paradox of diversity management. Overall, the current research landscape in organizational innovation is vibrant and multifaceted, reflecting the complexities of the innovation process and its myriad influences.

### **2.2.1 Theoretical foundations of innovation**

Various theoretical frameworks have been used to examine and explain the phenomenon of innovation in organizations. Among them, the most prominent ones include the diffusion of innovations theory, absorptive capacity theory, dynamic capabilities theory and open innovation theory. The diffusion of innovations theory, as articulated by Rogers (2010), delves into the mechanics of how novel ideas and technology spread within and between organizations. While traditionally applied to technological adoptions, recent literature broadens its use, showcasing the dynamic interplay between innovation characteristics, communication channels, and social systems in the diffusion process (Benhabib et al, 2021). According to Benhabib et al (2021), early adopters tend to be influential within their social networks and play a crucial role in the propagation of the innovation, as the rate of adoption is influenced by perceived characteristics of the innovation, including its relative advantage, compatibility, complexity, trialability and observability.

Absorptive capacity theory, originating from the work of Cohen & Levinthal (1990), emphasizes an organization's ability to identify, assimilate, and exploit knowledge from the external environment as a pivotal determinant of innovation. The theory has since been refined by Zahra & George (2002), who differentiated between potential and realized absorptive capacity, and their respective impacts on innovation performance. According to Zahra & George's (2002) differentiation between potential absorptive capacity (acquisition and assimilation of knowledge) and realized absorptive capacity (transformation and exploitation of knowledge), they posited that these two types of absorptive capacity are different yet related, and that both are crucial for enhancing innovation performance.

Dynamic capabilities theory, as proposed by Teece (2012), accentuates the role of specific organizational processes (namely sensing, seizing, and reconfiguring) in building and reconfiguring resources and competencies for innovation. The theory has proven particularly insightful when applied to innovation studies within rapidly evolving technological sectors (Peteraf et al, 2013). Moreover, this theory underscores the importance of particular organizational processes in enabling innovation, sensing opportunities and threats, seizing opportunities, and maintaining competitiveness through enhancing, combining, protecting, and reconfiguring internal and external competencies that form the dynamic capabilities of an organization (Peteraf et al, 2013).

Additionally, the open innovation theory was brought forth by Chesbrough (2011), revolutionising the traditional understanding of innovation by advocating for a balanced utilization of both internal and external ideas and paths to market. This paradigm has sparked extensive empirical research, with findings consistently pointing to the theory's effectiveness in enhancing firms' innovation performance and competitiveness (Yoon et al, 2020; Lee et al, 2019; Paiva et al, 2020). Overall, the current body of literature on organizational innovation underscores its pivotal role in driving business success and competitiveness. The study of innovation has evolved significantly over the past decade, with research adopting multifaceted perspectives to understand this complex phenomenon.

### **2.2.2 Measurement of innovation in research**

The measurement of innovation in empirical research has been a topic of extensive debate and exploration, with a plethora of indicators being employed based on the research context and the specific facet of innovation under scrutiny. Traditionally, input-based measures such as research and development (R&D) expenditure and the number of employees involved in R&D activities have been widely used under an innovation scoreboard approach (Arundel & Hollanders, 2008). These measures reflect the resources allocated by firms towards generating innovation. However, it has been criticised that input does not necessarily translate to successful output, as Janger et al (2017) proposed the need to supplement these with output-based indicators, including the number of patents, new product introductions, and successful implementations of innovative processes. The combined inputs and outputs measurement approach is further reinforced in the study of Taques et al (2021), as it is found to provide more accurate and direct measures of innovative productivity.

However, Taques et al (2021) also raised the apparent challenges over the intangible dynamics of innovation, arguing that process, organisation and marketing innovations are difficult to quantify, hence are commonly neglected in innovation metrics. More recently, researchers have begun to incorporate measures of the impact of innovation, such as changes in market share, revenue growth, and improved efficiency, acknowledging that the ultimate aim of innovation is to generate value (Nandal et al, 2020). Complex composite indicators, such as the European Innovation Scoreboard amalgamate a multitude of innovation-related measures, have also been utilized in empirical research, offering a more holistic view of a firm's or a country's innovation performance (Bielinska-Dusza & Hamerska, 2021; Coutinho et al, 2023). Nonetheless, it is apparent that there is no single measure that can fully capture the multifaceted nature of innovation, the careful selection and combination of various innovation indicators can provide a robust, comprehensive, and nuanced understanding of the innovation process in which this study adopts. Thus, Taques et al's (2021) approach to measure innovation under product, process, marketing, organisational and strategic innovation are adopted to leverage a comprehensive view of innovation across a wider range of organisational processes.

### **2.3 Theoretical links between diversity and innovation**

The theoretical underpinnings behind the relationship between diversity and innovation stem largely from two major theoretical frameworks: the information-processing theory (De Dreu et al, 2011) and the social categorization theory (Luncheon & Contractor, 2015). The information processing theory proposed by Cox & Blake (1991) suggests that diverse groups, due to their varied backgrounds and experiences, possess a broader range of information and perspectives. Subsequently, this diversity is found to enhance creativity and encourage the generation of value-added novel ideas, as reflected in Hong & Page's (2004) study where diverse teams are found to outperform homogeneous teams in complex problem-solving tasks due to their wider array of perspectives. Another study by Hofstra et al (2020) identified a diversity-innovation paradox via the application of the information processing theory, arguing that whilst diversity is likely to breed innovation, underrepresented groups that diversity organisation have limited access to necessary resources and opportunities to innovate.

Alternatively, the social categorization theory proposed by Tajfel & Turner (2004) concerns about the potential negative impacts of diversity, positing that individuals have the natural tendency to categorize themselves and others into in-groups and out-groups. It is found that higher levels of diversity may lead to intergroup biases, conflicts and reduced communication, which would ultimately hinder the innovation process as highlighted in Zhan et al's (2015) conceptualisation of diversity as a "double-edged sword" for innovation processes. Another study by Van Zijl et al (2023) explored the relationship between functional diversity and team innovation via the application of the social categorization theory, finding a positive correlation where teams with members who have different functional backgrounds are more likely to generate innovative ideas, but the strength of this relationship is mediated by social cohesion, whereby a lack of social cohesion would potentially disrupt innovation.

In general, empirical studies have shown mixed results, with some finding positive relationships between diversity and innovation (Zijl et al, 2023; Ostergaard et al, 2011; Ozgen et al, 2017) and others identifying negative or non-significant relationships when applied in different contexts (Zhan et al, 2015; Crespi & Pianta, 2008; Bolli et al, 2018). Furthermore, more recent research has begun to dissect the nuanced effects of different types of diversity (e.g., demographic, cognitive, functional) on innovation (Chen et al, 2019; Hofstra & Kulkarni, 2020; Zijl et al, 2023), with varying results. Nonetheless, it is evidential that empirical literature recognises that the relationship between diversity and innovation is complex and multi-faceted, shaped by the types and levels of diversity, the context in which they interact, and the processes through which diversity influences innovation.

### **2.3.1 The role of cultural factors in the diversity-innovation relationship**

The intersection of cultural factors, diversity, and innovation is a burgeoning area in academic research, underpinned by a growing recognition of the role of cultural context in shaping the diversity-innovation relationship (Karlsson et al, 2021; Ozgen, 2021). Early research primarily focused on the direct effects of diversity on innovation, largely overlooking the moderating role of cultural factors (Stahl et al, 2010). However, contemporary studies argue that the cultural context, including both organizational and national culture, can significantly moderate the diversity-innovation nexus (Attah-Boakye et al, 2020). For example, organisational culture is found to influence how diversity is managed and utilized for innovation, as studies by Cropley & Cropley (2017) have shown that cultures emphasizing inclusivity, learning, and psychological safety can better leverage the benefits of diversity for innovation by encouraging the exchange and integration of diverse ideas.

Alternatively, cultures characterized by rigidity or conformity may struggle to capitalize on diversity is found to result in less innovative outcomes (Chua et al, 2015). At the national level, cultural dimensions identified by Hofstede (1980), such as individualism-collectivism, power distance, and uncertainty avoidance, have been applied to understand how cultural factors can shape the diversity-innovation relationship. For instance, research suggests that in cultures high in individualism and low in power distance, the positive effects of diversity on innovation are more likely to be manifested as these cultural contexts value individual uniqueness and egalitarian relations (Efrat, 2014). Additionally, Attah-Boakye et al (2020) argues that cultures with high power distance or collectivism might see a reduced positive effect, or even negative impacts of diversity on innovation due to conformity pressures or hierarchical norms.

Kalasin's (2021) study finds that uncertainty avoidance is another cultural dimension that can moderate the relationship between diversity and innovation, as cultures with low uncertainty avoidance may be more receptive to the variability and novelty brought by diversity, fostering an environment conducive to innovation. Nonetheless, academic research into the role of cultural factors in the diversity-innovation relationship is still emerging, and findings are somewhat mixed. This may be due to the complex interplay of cultural factors with other variables, such as the type of diversity (demographic, cognitive, etc.), the nature of innovation (incremental vs radical), and the industry context, as this study addresses this by further dissecting these complexities to gain a more nuanced understanding of the role of cultural factors in the diversity-innovation relationship.

### **2.3.2 The role of contextual factors in the diversity-innovation relationship**

Contextual factors, including the nature of diversity (gender, age, cognitive) and organizational characteristics (size, location), are gaining increased recognition for their potential role in shaping the diversity-innovation relationship. According to Ritter-Hayashi et al's (2016) study, gender diversity can foster innovation due to the incorporation of diverse perspectives and experiences, but the apparent gender norms and biases present within the contextual setting of the organization is also influential. Age diversity also brings together different generations with their unique experiences, fostering a fertile environment for innovation (Gordon, 2018). Furthermore, Van Knippenberg et al (2004) argues that age diversity can also lead to misunderstandings and conflicts due to generational differences, as the impact of age diversity on innovation may also be influenced by contextual factors such as the industry's rate of change or the type of work performed, where either younger or older employees' skills may be more valuable.

Cognitive diversity, which encapsulates differences in perspectives, knowledge, and problem-solving approaches, has been positively linked to innovation, particularly in tasks requiring creativity and complex problem-solving (Bassett-Jones, 2005). However, managing cognitive diversity can be challenging, especially in organizations with a less open culture or where conformity is valued (Bassett-Jones, 2005). Other contextual factors that influence the diversity-innovation relationship is highlighted in Naranjo-Valencia et al's (2016) study on Spanish companies, whereby organisational size is found to have significant relationships as larger organizations often have more resources to manage diversity effectively and harness its benefits for innovation. It is also found that larger organisations tend to have more formalized diversity management programs, enhancing the positive effects of diversity on innovation (Naranjo-Valencia et al, 2016).

Additionally, the location of the organization can also shape the diversity-innovation relationship, as Elia et al's (2019) study found that MNC subsidiaries located in cosmopolitan cities characterised by high levels of diversity may find it easier to leverage diversity for innovation due to a more open and diverse environment, which may foster a more inclusive organizational culture. Overall, empirical literature recognises the role of contextual factors in the diversity-innovation relationship is multi-dimensional and complex, underlining the necessity to account for these factors when investigating the impact of diversity on innovation.

## **2.4 Summary of literature**

The existing body of literature has enriched our understanding of the diversity-innovation relationship by demonstrating that diversity, in its various dimensions, can contribute to innovation in organizations. However, this relationship is complex and can be influenced by numerous factors, including the type of diversity, organizational culture, and broader contextual factors. Empirical research has differentiated the impacts of various diversity dimensions on innovation, such as gender, age, ethnicity, cultural background, and cognitive diversity. While cognitive and functional diversity are often associated with improved innovation due to the varied perspectives and skills they bring, demographic diversity can also contribute to innovation, albeit with potential conflicts due to social categorization.

Theoretical frameworks such as the information processing theory and the social categorization theory, offer contrasting views on the diversity-innovation relationship, thereby adding a nuanced understanding of how and when diversity can contribute to innovation. The role of cultural factors, both at the organizational and national levels, in the diversity-innovation relationship has also been examined, highlighting the moderating effects of cultural context. Similarly, other contextual factors, such as organizational size and location, have been acknowledged for their potential influence on the diversity-innovation relationship.

Despite these advancements, gaps remain in the literature. Most studies on diversity and innovation have been conducted in Western contexts, with limited focus on non-Western settings, such as China. This omission overlooks potential cultural and contextual differences that may influence the diversity-innovation relationship in these settings. Moreover, while the individual effects of different diversity dimensions have been explored, the combined or interaction effects of these dimensions on innovation are less understood. Understanding these interaction effects can offer a more holistic view of how diversity contributes to innovation.

### **2.4.1 Research framework and hypotheses**

In consideration of empirical academic knowledge and identified research gaps, the research framework in figure 1 and the following hypotheses are formulated to shape the design of the study.

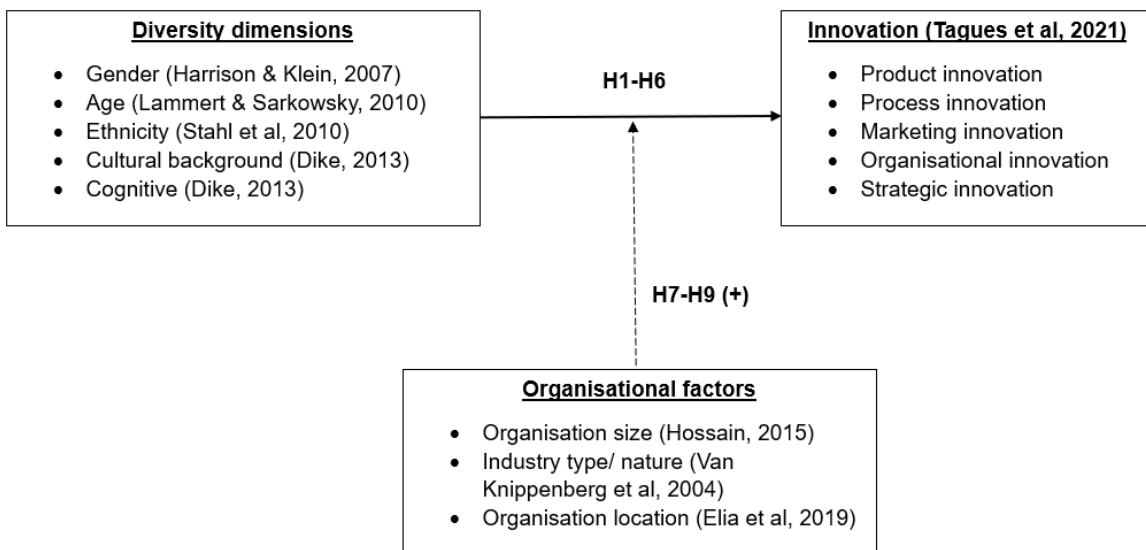


Figure 1: Research framework

***Individual Impacts of Diversity Dimensions on Innovation:***

- H1: Gender diversity is positively related to innovation in Chinese organizations.
- H2: Age diversity is positively related to innovation in Chinese organizations.
- H3: Ethnic diversity is positively related to innovation in Chinese organizations.
- H4: Cultural background diversity is positively related to innovation in Chinese organizations.
- H5: Cognitive diversity is positively related to innovation in Chinese organizations.

***Combined Effects of Diversity Dimensions on Innovation:***

- H6: The combination of gender, age, ethnicity, cultural background, and cognitive diversity has a positive impact on innovation in Chinese organizations.

***Moderating Role of Organizational Factors in the Diversity-Innovation Relationship:***

- H7: Organizational size moderates the relationship between diversity and innovation, as the larger the organisation, the higher impacts of diversity on innovation.
- H8: The industry in which the organization operates moderates the diversity-innovation relationship, with tertiary industries (e.g., service-based industries) benefiting more from diversity in terms of innovation.
- H9: The location of the organization moderates the diversity-innovation relationship, with organizations in tier 1 cosmopolitan cities benefiting more from diversity in terms of innovation.

### 3. Methodology

This chapter discusses the methodological system and procedures underpinning the study, rendering a comprehensive understanding of the justifications behind each chosen research method. According to Goundar (2012), methodological considerations are not only technical choices but are reflective of deeper philosophical positions that a researcher adopts. This chapter is structured in accordance to Saunders et al's (2009) research onion framework as shown in figure 2 below, ensuing sections systematically expound upon each concentric layer of the research process. The research onion framework characterizes the layered nature of the research methodology, emphasizing the interconnectedness of various methodological components. Beginning with the outermost layer, the research philosophy, the chapter gradually delves into the core components, such as research approach, research strategy, research choice, time horizon, data collection techniques and analysis layers. By anchoring the methodology within Saunders et al.'s (2009) framework, the study assures its alignment with established research paradigms, enhancing its robustness and academic credibility (Melnikovas, 2018).

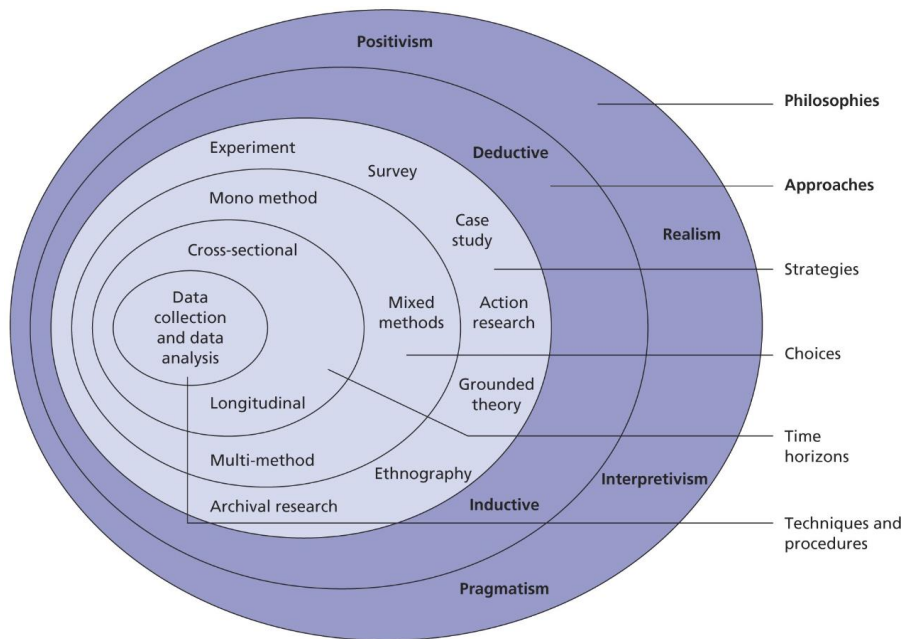


Figure 2: Research onion framework (Saunders et al, 2009)

#### 3.1 Research philosophy

Research philosophy is anchored in the foundational beliefs and assumptions about how knowledge is constructed in a study (Crossan, 2003). This research is formulated against the backdrop of examining the impact of diversity on innovation in Chinese organizations, requiring the collection of quantitative data and testing of hypotheses, thus a positivist research philosophy is adopted. According to Park et al (2020), positivism is rooted in a belief that knowledge stems from observable and measurable phenomena, aligns closely with the empirical nature of scientific investigations. Moreover, such a stance is congruous with research that engages in structured,

objective inquiries, particularly when hypotheses are subjected to empirical tests, as seen in this study. Positivism assumes that the social world can be studied with the same methods as the natural world, and is often linked to quantitative methodologies (Caldewell, 2015).

Given the objectives of this research, which focus on discerning potential relationships and correlations between defined variables (diversity dimensions and innovation), a positivist paradigm offers a logical fit. In line with positivist tenets, this study seeks to uncover patterns within the Chinese organizational context using a survey tool, allowing for quantitative exploration of relationships (Creswell & Creswell, 2017). The choice of a positivist philosophy in this context ensures the research maintains a systematic and empirical approach, aiming to reveal objective truths about diversity's impact on innovation in Chinese companies. Thus, leveraging the strength of positivism, the investigation offers empirical robustness while contributing meaningful insights to both the academic and the practical realms of organizational studies (Mackenzie & Knipe, 2006).

### **3.2 Research approach**

In addressing the research objectives and hypotheses, a deductive research approach has been chosen for this study. The deductive approach is characteristic of studies that move from the general to the specific, often starting with a theory or a hypothesis and then testing it through empirical observations (Bryman, 2016). Given the study's aim to testify designated research hypotheses related to diversity dimensions and their impact on innovation, a deductive approach aligns naturally. The research hypotheses provided at the onset offer a framework that suggests potential relationships between diversity dimensions and innovation. These hypotheses have been formulated based on existing literature and theories related to organizational diversity and innovation. The survey data collected will be used to test these hypotheses in the Chinese organizational context.

The deductive nature of this study demands a structured methodology, which ensures clarity in linking research objectives to specific hypotheses and subsequently to the survey questions. This structured approach, which entails hypothesis testing based on the collected data, is aligned with the positivist paradigm discussed in the preceding section on research philosophy. It emphasizes objectivity and the application of systematic and standardized procedures to understand the observed phenomena (Easterby-Smith et al, 2012). By embracing a deductive research approach, this study ensures that the hypotheses derived from academic literature are empirically tested within the unique context of Chinese organizations. This provides both a rigorous assessment of established theories in a new setting and offers valuable, context-specific insights that enrich the broader academic discourse on diversity and innovation (Saunders et al, 2009).

### **3.3 Research strategy**

According to Saunders et al (2009), the research strategy delineates the approach taken to answer research questions and attain the specified objectives. Given the research's goal to gauge the influence of various diversity dimensions on innovation in Chinese organizations, the survey strategy is deemed most suitable. Surveys are renowned for their ability to collect quantifiable data from a large sample, making them fitting for studies that aim to generalize findings to a broader population (Bryman, 2016). Surveys are particularly suited for exploratory investigations, as they

enable the researcher to examine relationships between different variables (Easterby-Smith et al, 2012).

In this context, the deployed survey probes participants about their perceptions regarding gender, age, ethnicity, cultural background and cognitive diversity within their organizations. Furthermore, it captures their perspectives on innovation manifested in the company. Such a structured data collection mechanism ensures consistency, enabling a more straightforward comparison of responses across the respondent base (Creswell & Creswell, 2017). Choosing a survey strategy further accentuates the study's commitment to the positivist paradigm, wherein structured methodologies align with the pursuit of objective truths. Consequently, the findings derived from this survey can provide empirical evidence on the relationships hypothesized between diversity dimensions and innovation, thus deepening the academic discourse in this arena.

### **3.4 Research choice**

The chosen methodology for this research is rooted in the quantitative choice, specifically designed to align with the study's objectives and the necessity for hypothesis testing. Quantitative research is favoured when the objective is to gather numerical data, which can then be analysed to discern patterns, relationships, or variations amongst groups (Creswell & Creswell, 2017). The employment of an online survey, comprising Likert scale-format questions, ensured the acquisition of standardized, quantifiable responses from participants as such structured data facilitates a consistent and comparative analysis of perceptions across diverse respondents. Moreover, a significant facet of this research revolves around the testing of hypotheses.

Quantitative methodology by its numerical nature, aligns seamlessly with hypothesis testing. The hypotheses set out specific presumptions regarding relationships amongst variables that require rigorous numerical and statistical analysis. For instance, elucidating correlations between specific diversity dimensions and perceived levels of innovation mandates a methodical approach, achievable only through quantitative techniques. The incorporation of Likert scale questions in the survey further emphasizes the quantitative orientation of this research. Such scales allow for the transformation of subjective perceptions into quantifiable metrics, which can be subjected to statistical scrutiny (Bryman & Bell, 2015).

### **3.5 Time horizon**

The time horizon for a research study dictates the temporal scope and structure of the data collection process. In the context of this investigation, a cross-sectional time horizon has been adopted, characterized by the collection of data at a single point in time (Saunders et al, 2009). There are several reasons underpinning the choice of a cross-sectional time horizon for this study. Firstly, given the objectives and nature of the research, it is pertinent to capture a snapshot of the current state of diversity and innovation within Chinese organizations. Subsequently, the study can present an up-to-date understanding of the relationships between diversity dimensions and innovation levels, informed by the present socio-cultural and economic conditions.

A cross-sectional approach also offers practical advantages in terms of feasibility and efficiency. Due to the apparent time constraint for this study, collecting data at a singular point in time is less resource-intensive and logistically simpler than longitudinal designs, which require multiple rounds of data collection over extended periods (Bryman & Bell, 2015). This approach is particularly suitable for this research, given the extensive scope of the survey and the breadth of organizations and respondents targeted. However, it's essential to recognize the limitations inherent to cross-sectional studies. While they provide a comprehensive snapshot of the current situation, they may not capture dynamic changes or causal relationships over time (Solen, 2015). Nevertheless, for the purposes of this study, the cross-sectional design remains suitable, ensuring a robust yet efficient examination of the diversity-innovation relationship in Chinese organizations at this juncture (Neuman, 2013).

### **3.6 Data collection**

In order to ensure sufficient credibility and depth in research data, the selection and design of appropriate data collection mechanisms is of vital research importance to fulfilling the objectives of this study. The target demographic, individuals well-versed with Chinese organizational culture and dynamics, demanded a specific approach in reaching and soliciting their insights. Subsequently, the choice of WeChat as the distribution platform was deemed most suitable, as one of the most extensively used communication platforms in China, WeChat provided unparalleled access to potential respondents across varied sectors and hierarchies within Chinese organizations. This vast reach was capitalized upon by starting the survey distribution within personal networks, leveraging personal connections ensured a primary layer of trust, enhancing the response rate.

A total of 300 participants were recruited as it is argued by VanVoorhis & Morgan (2007) that a sample size of 300 would provide substantial statistical reliability, which ensures that the results can be generalized to a broader population and maintaining a manageable dataset for intricate analyses without compromising the depth of insights. The sampling technique employed was non-probability purposive sampling. Given the research's specialized nature and the need to delve deep into the realms of diversity and innovation in Chinese organizations, it was essential to approach participants who had an intimate understanding of these dynamics. This method ensured that respondents would provide meaningful, informed insights rather than generic observations, thus enriching the dataset.

To facilitate a high response rate and authentic feedback, a succinct introduction accompanied the survey link via a project information sheet. This briefing outlined the research's objectives and underscored the importance of candid responses. Assurances regarding the confidentiality of responses were also provided, ensuring respondents felt secure in sharing potentially sensitive information about their organizations, signalling their consent prior participation. The data collection employed a combination of Likert scale to capture the complexities of the study. Questions in Sections B and C utilized a 10-point Likert scale, an ordinal scale renowned for capturing gradations in sentiment, thereby ensuring nuanced perceptions on diversity and innovation within organizations are accurately represented (Jamieson, 2004).

The decision for a 10-point scale, over traditional 5 or 7-point iterations, was influenced by its potential to yield more reliable results and provide greater differentiation in responses, catering to a detailed variance in respondent sentiment (Preston & Colman, 2000). Conversely, Section A

employed a categorical format, ideal for classifying organizations based on size, industry, and location. Such categorical, or nominal data, is apt for instances where responses fit distinct categories without implied hierarchy (Agresti, 2002). This strategic blend of data collection formats ensured a comprehensive representation, offering both macro-overviews and micro insights, essential for fulfilling the research objectives.

### **3.6.1 Development of measurement items**

The survey instrument for this study was developed through a rigorous, evidence-based process. The questionnaire amalgamated various questions derived and adapted from empirical research identified in the literature review, ensuring alignment with the specific scope and objectives of this study. For example, questions concerning age diversity were adapted from research by Joshi & Roh (2009), while questions related to ethnic diversity drew from Harrison & Klein (2007) and Steele et al. (2022). Additionally, questions examining cultural background diversity were influenced by Stahl et al. (2010) and Taras et al. (2010). The construct of cognitive diversity was based on Olson et al. (2007) and Van Knippenberg et al. (2004). Moreover, the section of the survey concerning innovation was informed by studies from Arundel & Hollanders (2008), Janger et al. (2017) and Taques et al. (2021).

These referenced empirical studies were thoroughly examined to identify the most relevant measurement scales and questions. Some questions were modified slightly to tailor them to the unique context of this study, focusing on diversity and innovation within Chinese organizations. Consequently, the formulation of survey items was conducted with careful planning to ensure a balance between empirical grounding and contextual relevance. This rigorous approach enhances the credibility of the collected data, laying a strong foundation for in-depth analysis and reliable conclusions.

### **3.6.2 Definition of diversity dimensions**

To offer a nuanced understanding of diversity within organizations, this study delineates multiple dimensions of diversity, each grounded in academic research and clearly defined for the context of this study.

- **Gender diversity:** This concept encompasses the presence, recognition, and inclusion of various gender identities in organizational roles, responsibilities and decision-making processes (Joshi & Roh, 2009).
- **Age diversity:** This dimension involves the representation and inclusion of employees from diverse age brackets. It values the experiences, perspectives, and knowledge that individuals of different ages bring to the organizational setting (Harrison & Klein, 2007; Steele et al, 2022).
- **Ethnic diversity:** Ethnic diversity refers to the acknowledgment, celebration, and representation of individuals from varied ethnic or racial backgrounds. The focus is on creating an inclusive environment where employees of all ethnicities can express their

viewpoints freely and contribute to organizational culture (Stahl et al, 2010; Taras et al, 2010).

- **Cultural background diversity:** This aspect pertains to recognizing individuals from a wide range of cultural backgrounds, which could include regional origins, languages spoken and educational backgrounds. Organizations that acknowledge this dimension promote understanding, inclusion, and leverage the unique insights from these diverse backgrounds (Olson et al, 2007; Van Knippenberg et al, 2004).
- **Cognitive diversity:** This refers to encouraging a variety of thought processes, problem-solving methods and perspectives within an organization. Such diversity is particularly vital for innovation and tackling complex organizational challenges (Arundel & Hollanders, 2008; Janger et al, 2017; Taques et al, 2021).

### **3.7 Data analysis**

In the data analysis stage, the study employs rigorous statistical techniques to decipher the connections between diversity dimensions and innovation in Chinese organizations. First, the collected data was systematically reviewed to ensure its accuracy and to detect any missing or incomplete responses. This initial step was vital to guarantee that the subsequent analysis would be based on reliable data. The primary tool used for the analysis was the SPSS software, which is widely recognized for handling quantitative data. Descriptive statistics were first computed to gain an overview of the dataset's patterns, including the calculation of means, standard deviations and frequencies for each variable (Pallant, 2016).

To understand the influence of diversity on innovation, multiple regression analyses were employed. This statistical method helps in determining the strength and direction of the relationship between multiple independent variables (diversity dimensions) and a dependent variable (innovation). Additionally, the potential effects of organization size, industry, and location were examined in these models to determine if they change or moderate the relationship between diversity and innovation (Hair et al, 2010). Prior conducting regression, the data was checked for certain statistical assumptions. This involved looking for potential issues like multicollinearity, checking the distribution of data, and ensuring that the variance of data points remained consistent. If issues were detected, corrections were applied. For all tests, a significance level of 0.05 was used. This is a standard threshold in research to determine if findings are statistically significant and not just due to chance (Tabachnick & Fidell, 2013).

### **3.8 Ethics**

Ensuring the ethical integrity of any research project is paramount, especially when delving into the intricate aspects of diversity and innovation within organizations. In accordance with the guidelines provided by the University of Birmingham, several fundamental ethical measures were scrupulously observed throughout this study. Prior to the commencement of the data collection process, formal ethical approval was sought and obtained from the University of Birmingham's

Ethics Committee. The ethical guidelines stipulated by the University ensure that research maintains a high moral standard, emphasizing respect, responsibility and fairness. Moreover, participants were clearly informed about the study's purpose and their rights, emphasizing their freedom to withdraw without consequences. To maintain confidentiality, no personal identifiers were collected, ensuring participants' anonymity. Data was securely stored, with access limited to the primary researcher.

#### 4. Results and findings

This chapter presents the findings of survey data gathered from 300 participants with the aim to identify key data patterns, uncover new insights and derive meaningful conclusions that addresses proposed research objectives. The first part of this chapter presents the descriptive statistics of the data gathered from both company information and key variables related survey questions. The second part of this chapter critically explores the relationship between variables, testifying the accuracy of proposed research hypotheses.

##### 4.1 Descriptive statistics

As illustrated in table 1 below, a clear overview of the represented companies from survey participants is summered into cumulative percentages. The data captures a varied representation across company sizes, with a slight prominence of small enterprises at 37%. This balanced participation from both nascent and established firms ensures a multifaceted viewpoint. Interestingly, over half the respondents (54.3%) originate from the 'Secondary' sector, emphasizing the study's potential insights into production-oriented industries and their perspectives on diversity and innovation. Geographically, the dominance of Tier 2 cities, combined with equal representation from Tier 1 and Tier 3, illustrates a comprehensive blend of urban and developing city participants. This diversity is pivotal for our study, aiming to explore the intricate relationship between organizational diversity and innovation across varied corporate landscapes.

Table 1: Company information descriptive statistics

<b>Company information</b>				
		<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>Industry</b>	<b>Large</b>	97	32.3	32.3
	<b>Medium</b>	92	30.7	63.0
	<b>Small</b>	111	37.0	100.0
	<b>Total</b>	300	100.0	
<b>Industry</b>	<b>Primary</b>	76	25.3	25.3

	<b>Secondary</b>	163	54.3	79.7
	<b>Tertiary</b>	61	20.3	100.0
	<b>Total</b>	300	100.0	100.0
<b>City</b>	<b>Tier 1 city</b>	76	25.3	25.3
	<b>Tier 2 city</b>	163	54.3	79.7
	<b>Tier 3 city</b>	61	20.3	100.0
	<b>Total</b>	300	100.0	100.0

The descriptive statistics of key survey variables as summarised in table 2 below provides valuable insights into the perceptions of diversity and innovation amongst survey participants. In general, the close clustering of mean values around the mid-range, specifically 5.5, signifies a prevailing sentiment of moderate diversity across all types. Within the gender diversity metrics, mean scores for GD1 (5.59), GD2 (5.46), and GD3 (5.47) reflect that organizations are moderately successful in ensuring gender representation. These statistics suggest at a balanced approach to gender diversity, with slight variations in promoting gender representation, equality in decision-making roles, and recognizing its importance in company culture. Alternatively, the age diversity scores with AD1 at 5.33, AD2 at 5.27, and AD3 at 5.16, are marginally lower than gender diversity scores. This potentially suggests that while organizations have workforces of varied ages, they might face challenges in leveraging the strengths and potential of all age groups. The progressively decreasing means from AD1 to AD3 may indicate that while age diversity exists, its value and strengths are perhaps not universally recognized or utilized.

Table 2: Variable descriptive statistics

<b>Key variables - Descriptive Statistics</b>						
		<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Gender diversity</b>	GD1	300	1	10	5.59	1.915
	GD2	300	1	10	5.46	1.911
	GD3	300	1	10	5.47	1.974
<b>Age diversity</b>	AD1	300	1	10	5.33	1.955
	AD2	300	1	10	5.27	1.885
	AD3	300	1	10	5.16	1.852
<b>Ethnic diversity</b>	ED1	300	1	10	5.54	1.835
	ED2	300	1	10	5.43	1.873

	ED3	300	1	10	5.37	1.812
<b>Cultural background diversity</b>	CBD1	300	1	10	5.31	1.873
	CBD2	300	1	10	5.26	1.909
	CBD3	300	1	10	5.31	1.913
<b>Cognitive diversity</b>	CD1	300	1	10	5.63	2.006
	CD2	300	1	10	5.63	1.952
	CD3	300	1	10	5.59	1.887
<b>Innovation</b>	IN1	300	1	10	5.47	1.945
	IN2	300	1	10	5.32	1.976
	IN3	300	1	10	5.29	1.948
	IN4	300	1	10	5.26	1.843
	IN5	300	1	10	5.30	1.924

Scores for ethnic diversity - ED1 (5.54), ED2 (5.43), and ED3 (5.37) - situate closely with the gender diversity metrics. This indicates that organizations, on average, have balanced ethnic representation and are somewhat successful in creating inclusive environments and valuing ethnic diversity. The metrics for cultural background diversity, CBD1 (5.31), CBD2 (5.26), and CBD3 (5.31), are on par with the ethnic diversity figures. This suggests a similarity in organizational perspectives on ethnic and cultural diversities, with efforts concentrated on having diverse cultural backgrounds and promoting mutual understanding. Cognitive diversity scores are slightly elevated, with CD1 and CD2 both at 5.63 and CD3 at 5.59. This suggests that organizations appreciate the importance of diverse thinking patterns and the potential advantages they can offer, especially when it comes to innovation. Innovation scores, spanning from IN1 (5.47) to IN5 (5.30), imply a consistent acknowledgment of the importance of innovative practices. However, the scores also hint that the extent of innovative practices' application might be varied, with some areas receiving more focus than others.

**4.2 Variable relationships & hypothesis testing**

In order to examine variable relationships and testify proposed hypotheses, survey variables are transformed and computed within designated variable groups, for example, gender diversity (GD) is computed via the means of GD1, GD2 and GD3. This ensures a standardised score created for each variable group to aid subsequent hypotheses testing. The results of linear regression coefficients between all diversity dimensions and innovation are summarised in table 3 below.

Table 3: Linear regression coefficients between all diversity dimensions and innovation

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.180	.339		3.484	.001
	GD	-.093	.054	-.097	-1.712	.088
	AD	.686	.051	.700	13.561	.000
	ED	-.317	.047	-.314	-6.770	.000
	CBD	.100	.051	.102	1.957	.051
	CD	.402	.055	.427	7.333	.000

a. Dependent Variable: IN

**4.2.1 Gender diversity (GD) and innovation (IN)**

The unstandardized coefficient for GD is -0.093, implying that a unitary increase in gender diversity might be associated with a 0.093 decrease in innovation. Furthermore, the standardized coefficient (Beta) for GD is -0.097, suggesting a negative association. The t-value is -1.712, indicating a negative relationship, but the significance level is 0.088. Given the traditional threshold of 0.05 for statistical significance, this result doesn't establish the hypothesized positive relationship. Thus, **H1 is not supported**; instead, there might be a slight negative relationship, although this is not strong enough to be conclusive.

**4.2.2 Age diversity (AD) and innovation (IN)**

The coefficient for AD is 0.686, which is a strong positive association. This means that as age diversity increases, innovation in the organization is expected to increase by 0.686 units. The Beta value of 0.700 and a highly significant t-value of 13.561 (with a p-value of 0.000) reinforce this positive link. **H2 is strongly supported** by the data, asserting a robust positive correlation between age diversity and innovation.

**4.2.3 Ethnic diversity (ED) and innovation (IN)**

I the unstandardized coefficient is -0.317, indicating that an increase in ethnic diversity might correspond to a decrease in innovation by 0.317 units. The negative Beta value of -0.314 and a highly significant t-value of -6.770 (p-value: 0.000) further attest to this negative relationship. Hence, **H3 is not supported**. In contrast, the data suggests a significant negative relationship

between ethnic diversity and innovation whereby the higher the ethnic diversity, the lower the innovation resulted.

#### 4.2.4 Cultural background diversity (CBD) and innovation (IN)

The coefficient for CBD is 0.100, signifying a moderate positive relation between cultural background diversity and innovation. The Beta value of 0.102 and t-value of 1.957 suggest a positive trend. However, the p-value is 0.051, which is marginally above the conventional 0.05 significance level. This means that while there seems to be a positive trend, it's just on the borderline of being statistically significant. Given this borderline result, **H4 can be said to be tentatively supported.**

#### 4.2.5 Cognitive diversity (CD) and innovation (IN)

The coefficient for CD is 0.402, highlighting a substantial positive correlation with innovation. The Beta value is 0.427, and the t-value of 7.333 (with a p-value of 0.000) decisively supports this link. **H5 is thus strongly supported**, asserting a marked positive relationship between cognitive diversity and innovation.

### 4.3 Combined effects of diversity dimensions on innovation

To understand the combined effects of the various diversity dimensions on innovation, an aggregate diversity score was calculated. This was accomplished by combining all the individual diversity scores and then averaging them, thereby resulting in a composite metric, as referred to as 'Comb' in the regression analysis in table 4. Such an approach offers a holistic representation of diversity within organizations, encapsulating all its multifaceted elements into a singular value.

Table 4: Combined effects of diversity dimensions on innovation

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.961	.453		4.325	.000
	Comb	.621	.082	.403	7.595	.000

a. Dependent Variable: IN

From the regression results, the combined diversity variable represented as 'Comb' has an unstandardized coefficient of .621. This indicates that for every unit increase in the combined diversity score, there is an associated increase of .621 in innovation. Furthermore, the Beta value,

standing at .403, underscores the magnitude and positive direction of this relationship, showcasing that as integrated diversity surges, so does innovation. This positive correlation is further substantiated by a statistically significant t-value of 7.595 and a p-value of .000, asserting that this observed relationship is not mere coincidence but has statistical grounding. The p-value, being significantly less than a conventional threshold of .05, accentuates the reliability of these results. Given these metrics and their implications, it's unequivocal that the hypothesis **H6 receives empirical support from the data**. The evidence suggests that the synergistic effect of combining various diversity dimensions indeed fosters innovation within Chinese organizations.

#### 4.4 Moderating role of organisational size on diversity and innovation

The aggregated diversity score 'COMB' and its interaction with organizational size (OrgSize) to determine its impact on innovation (IN) is performed through the PROCESS Macro function in SPSS. The combined model as shown in table 5 encompasses COMB, OrgSize, and their interaction term, accounts for 28.9% of the variance in innovation (R-squared = .2890). The model is statistically significant (p < .0000), indicating that the included variables collectively have a substantial influence on innovation. Considering the individual coefficients, COMB has a coefficient of .5955, which is statistically significant (p = .0005). This means that, on average, an increase in the combined diversity score is associated with an increase in innovation. The coefficient for OrgSize, however, is -.9815 with a p-value slightly above the conventional threshold at .0575. This suggests that as organizational size increases, there's a trend toward a negative impact on innovation, though it doesn't firmly establish statistical significance.

Table 5: Moderating role of organisational size

```

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .5376      .2890      2.2440      40.1019      3.0000      296.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      3.5858      .9512      3.7699      .0002      1.7139      5.4577
COMB      .5955      .1689      3.5250      .0005      .2630      .9280
OrgSize      -.9815      .5147      -1.9069      .0575      -1.9944      .0315
Int_1      .0404      .0907      .4452      .6565      -.1381      .2188

Product terms key:
Int_1      :      COMB      x      OrgSize

Test(s) of highest order unconditional interaction(s):
      R2-chng      F      df1      df2      p
X*W      .0005      .1982      1.0000      296.0000      .6565

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

```

The coefficient for the interaction between COMB and OrgSize is .0404, with a p-value of .6565. Such a p-value, being far above the .05 threshold, indicates that the interaction term is not

statistically significant. The test of the highest order unconditional interaction also confirms this insignificance ( $p = .6565$ ). This suggests that the relationship between the combined diversity score (COMB) and innovation (IN) is not significantly moderated by organizational size (OrgSize). To interpret these findings in relation to H7, **the data does not provide strong evidence in support of the hypothesis**. While the combined diversity score positively influences innovation, organizational size doesn't significantly amplify or reduce this relationship. Thus, larger organizations do not necessarily appear to benefit more from diversity in terms of innovation than smaller organizations, based on the current dataset.

#### 4.4.1 Moderating role of industry nature on diversity and innovation

The results of the regression model as shown in table 6 indicate that 22.76% of the variation in innovation can be attributed to the variables present in the model ( $R\text{-squared} = .2276$ ), and this model showcases significant predictability ( $p < .0000$ ). Specifically looking at the coefficient values, the combined diversity score 'COMB' by itself does not seem to be a significant predictor of innovation with a coefficient of  $-.2698$  and a non-significant  $p$ -value of  $.3272$ . This implies that without considering the industry type, diversity scores might not offer a straightforward prediction for innovation. On the other hand, the industry variable comes forth as a significant predictor with a coefficient of  $2.8551$  ( $p < .0000$ ). However, this negative association suggests a decline in innovation when moving from primary to secondary industries, but this interpretation is nuanced given the presence of an interaction term in the model.

Table 6: Moderating role of industry nature

```

Model Summary
  R          R-sq      MSE          F          df1          df2          p
  .4771      .2276      2.4376      29.0784      3.0000      296.0000      .0000

Model
  coeff      se          t          p          LLCI          ULCI
constant    7.3856    1.3923    5.3045    .0000    4.6455    10.1258
COMB        -.2698     .2750   -0.9814    .3272   -0.8110    0.2713
Industry    -2.8551    .6144   -4.6472    .0000   -4.0642   -1.6460
Int_1       .4529     .1130    4.0098    .0001    0.2306    0.6752

Product terms key:
Int_1      :      COMB      x      Industry

Test(s) of highest order unconditional interaction(s):
  R2-chng      F          df1          df2          p
X*W          .0420    16.0781    1.0000    296.0000    .0001
-----
  Focal predict: COMB      (X)
  Mod var: Industry (W)

Conditional effects of the focal predictor at values of the moderator(s):

  Industry      Effect      se          t          p          LLCI          ULCI
  1.0000        .1831     .1729    1.0590    .2904   -0.1571    0.5233
  2.0000        .6360     .0984    6.4625    .0000    0.4423    0.8297
  3.0000        1.0889    .1225    8.8905    .0000    0.8479    1.3300

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

```

This nuance becomes clear when observing the interaction term between COMB and Industry, which has a significant coefficient of  $.4529$  ( $p = .0001$ ). This significance suggests that the

relationship between diversity and innovation varies depending on the industry type. Dissecting this further: in primary industries, the relationship between diversity and innovation, though positive, is not statistically significant. However, in secondary industries, diversity has a strong positive effect on innovation, a relationship that becomes even more potent in tertiary (service-based) industries. This gradient of impact aligns well with the hypothesis H8, which posits that service-based industries benefit the most from diversity in the context of innovation. Hence, **the data robustly supports this hypothesis**, emphasizing that while diversity can potentially foster innovation across all industries, its effects are particularly pronounced and beneficial in the tertiary sector.

#### 4.4.2 Moderating role of organisation location on diversity and innovation

As illustrated in table 6 below, the regression model highlights that a noteworthy 23.29% of the variance in innovation can be explained by the integrated factors (R-squared = .2329), its significance is evident ( $p < .0000$ ). In terms of individual coefficients, the 'COMB' variable presents as a significantly positive predictor of innovation with a coefficient value of 1.4604 and a highly significant p-value of .0000. This suggests that in isolation, increased diversity is associated with higher innovation. Similarly, the City variable (representing the tier of the city) is another significant predictor with a coefficient value of 2.8094 and  $p < .0000$ , indicating that transitioning from a lower-tier city to a higher-tier positively impacts innovation.

Table 6: Moderating role of industry location

```

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4826      .2329      2.4211      29.9502      3.0000      296.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      -3.1763      1.0780      -2.9464      .0035      -5.2978      -1.0547
COMB      1.4604      .1859      7.8576      .0000      1.0946      1.8262
City      2.8094      .5625      4.9944      .0000      1.7024      3.9164
Int_1      -.4790      .1050      -4.5613      .0000      -.6856      -.2723

Product terms key:
Int_1      :      COMB      x      City

Test(s) of highest order unconditional interaction(s):
      R2-chng      F      df1      df2      p
X*W      .0539      20.8054      1.0000      296.0000      .0000
-----
      Focal predict: COMB      (X)
      Mod var: City      (W)

Conditional effects of the focal predictor at values of the moderator(s):

      City      Effect      se      t      p      LLCI      ULCI
1.0000      .9814      .1045      9.3907      .0000      .7758      1.1871
2.0000      .5025      .0967      5.1952      .0000      .3121      .6928
3.0000      .0235      .1727      .1362      .8918      -.3164      .3635

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

```

However, the heart of the hypothesis lies in the interaction between the combined diversity score and the city tier, which is captured by the significant interaction term (Int\_1 coefficient: -.4790, p

< .0000). This underscores that the association between diversity and innovation isn't uniform across city tiers. To illuminate this further: organizations in tier 1 cities exhibit a robust positive relationship between diversity and innovation. This positive effect tapers off significantly in tier 2 cities, and by the time we consider tier 3 cities, the effect of diversity on innovation becomes statistically insignificant. This modulation of the diversity-innovation relationship based on the city tier directly aligns with the posits of Hypothesis H9. It was postulated that organizations in tier 1 cosmopolitan cities would harness the most innovation from diversity. **The data supports this claim**, emphasizing that while diversity might foster innovation across all city tiers, the tangible benefits are most discernible and pronounced in cosmopolitan tier 1 cities.

#### 4.5 Summary of hypothesis testing

From the individual impacts of diversity dimensions on innovation, the hypotheses H1 (Gender diversity) and H3 (Ethnic diversity) were not supported. In contrast, the results validated the positive relationships proposed in H2 (Age diversity), H4 (Cultural background diversity) and H5 (Cognitive diversity) were supported. The combined effect of various diversity dimensions was also found to positively affect innovation (H6). Furthermore, in analysing the moderating role of organizational factors on the diversity-innovation nexus, the study demonstrated that while the size of the organization (H7) didn't significantly influence the diversity-innovation dynamic, the industry of operation (H8) and the organization's location (H9) played pivotal roles. Specifically, organizations operating in tertiary industries and those located in tier 1 cosmopolitan cities reaped greater innovation benefits from diversity.

Table 7: Hypothesis testing results

Hypothesis	Supported/ Unsupported
1	Not supported
2	Supported
3	Not supported
4	Supported
5	Supported
6	Supported
7	Not supported
8	Supported
9	Supported

#### 5. Discussion

This chapter delves into a comprehensive discussion of the research findings, seeking to triangulate the results with the prevailing empirical academic knowledge. The intention is to enhance the

understanding of our study by juxtaposing the identified outcome with the wider academic discourse. To ensure a coherent and systematic dialogue, the structure of the discussion is aligned with aforementioned research objectives in section 1.2. Initially, the first part of this chapter will shed light on the individual impacts of gender, age, ethnicity, cultural background and cognitive diversity on the innovation of Chinese organisations, exploring the intricacies of each dimension. Subsequently, the second section will focus on elucidating the combined effects of these diversity dimensions on innovation, understanding how they interplay and coalesce. The final section will unravel the moderating role of organizational factors including size, industry and location in the diversity-innovation relationship, aiming to discern their influence in the Chinese organizational context. This approach ensures a step-by-step analysis, offering readers clarity and depth as they navigate the complexities of diversity's role in organizational innovation.

### **5.1 Impacts of gender, age, ethnicity, cultural background and cognitive diversity on innovation of Chinese organisations**

The association between gender diversity and innovation has been widely recognised in academic literature. Scholars have often advocated that a mix of male and female perspectives can bring about a richer idea pool and drive innovation (Richard et al, 2014). However, our findings bring this widely accepted belief under scrutiny, at least within the context of Chinese organizations. The slight negative association, even though not significant beyond the conventional threshold is perplexing. This raises the question on whether inherent organizational structures or cultural nuances in Chinese firms have contributed to hindering the potential positive impacts of gender diversity. Additionally, this also questions whether gender roles in the Chinese context play an influential role in this dynamic. The findings are reminiscent of Eagly & Karau's (2002) Role Congruity Theory, suggesting that prevailing stereotypes might create dissonance and inhibit innovation. In consideration of the identified findings, the Chinese business environment might benefit from a deeper exploration of these nuances in future studies.

Alternatively, the empirical evidence from this research study robustly reinforces the influence of age diversity in fostering innovation. The coefficient for AD, standing at 0.686, elucidates a significant positive association. As age diversity amplifies, innovation in Chinese organizations rises by 0.686 units, a finding further underscored by the Beta value of 0.700 and a statistically significant t-value of 13.561. This congruence is consistent with prior academic endeavours that have explored age dynamics in the workplace (Joshi & Roh, 2009). Joshi & Roh (2009) expounded that the diverse experiential backdrop brought by varied age groups can give rise to a richer texture of perspectives and insights in a professional setting.

In the context of Chinese organizations, this resonance is notably striking. Shore et al (2011) discovered that an optimal blend of seasoned veterans with younger recruits in Chinese enterprises fostered a multiplicity of problem-solving methods and a malleable business strategy. The seasoned cohort, embedded in traditional wisdom and long-standing methodologies, imparts insights that harken to China's profound historical and cultural tapestry, infusing depth and stability (Postiglione, 2014). In juxtaposition, younger individuals, being the vanguard of modern trends and technological advances, bring fresh perspectives as documented by Jackson et al (2006). This intergenerational synergy potentially results in a fertile ground for innovation. The blend of experience from the older workforce and the avant-garde approaches of the younger members can potentially be the crucible from which novel solutions emerge. This observation is in accord with

findings from Tsui & Lau (2002), who emphasized the tangible upshots of such inter-generational collaboration in Chinese contexts.

Moreover, the empirical findings on ethnic diversity's influence on innovation in our study deviate from prevalent academic assertions. Our data presents an unstandardized coefficient of -0.317 for ED, corroborated by a Beta value of -0.314 and a highly significant t-value of -6.770, underscoring a negative relationship. Classical studies such as Foster (1993) and Zink & McKittrick (1995) championed the potential innovative benefits of ethnic diversity, emphasizing the importance of diverse experiences and insights that varied ethnic backgrounds can contribute. The foundational idea being that varied ethnic perspectives can potentiate innovative solutions. Contrastingly, our results resonate with Lammert & Sarkowsky's (2010) apprehensions that unmanaged diversity can precipitate counterproductive dynamics. This prompts a pivotal query on whether Chinese organizations are capitalizing on their intrinsic ethnic diversity effectively. A deeper examination suggests that the findings might reflect the nuanced socio-cultural dynamics of China. Historically, the Han majority has been predominant, creating a more homogenized cultural milieu (Dikötter, 2015). Thus, integrating ethnic minorities into such environments might inadvertently yield friction, particularly if diversity practices aren't refined, potentially stifling the innovative potential.

The exploration into cultural background diversity's relationship with innovation yields nuanced findings. The data denotes a coefficient of 0.100 for CBD, suggesting a moderate positive association with innovation, substantiated by a Beta value of 0.102. However, the p-value of 0.051 positions this relationship just outside the boundaries of conventional statistical significance. Our findings concur, to an extent, with Cox's (1994) thesis that diverse cultural backgrounds can enrich innovation by offering a plethora of perspectives and approaches. These myriad cultural insights, rooted in distinct traditions and values, can enhance collaborative innovation endeavours. However, the results also necessitate a more discerning appraisal, raising the question over whether it is possible that specific dimensions of cultural diversity resonate more harmoniously within Chinese organizations. This proposition aligns with Stahl et al (2010), who elucidated that cultural diversity, while a catalyst for creativity, might also precipitate conflict, potentially undermining collaborative synergy.

The empirical exploration elucidates a robust association between cognitive diversity and innovation in Chinese contexts. The dataset presents a coefficient of 0.402 for CD, evincing a substantive positive relationship with innovation, further buttressed by a Beta value of 0.427 and a statistically significant t-value of 7.333. These findings align with Milliken & Martins (1996), who advanced the premise that diverse cognitive perspectives augment innovative capacities. Such diversity, amalgamating varied thought processes and problem-solving techniques, arguably cultivates an enriched ideation environment (Hong & Page, 2004). Yet, understanding this relationship demands a more refined lens, especially within China's distinctive cultural tapestry interweaving Confucian orthodoxy with modernist inclinations (Farh et al, 1997). Moreover, it is of apparent importance to further investigate which cognitive diversity facets resonate most profoundly in China, exploring whether there is a harmonious integration of analytical and holistic paradigms, as proposed by Chen et al (2019), or whether the emphasis lean toward distinct cognitive realms. Exploring these nuances within the Chinese organizational milieu offers a salient direction for future academic pursuits.

## **5.2 Combined effects of diversity dimensions on innovation in Chinese organisations**

This study also sought to understand how various types of diversity, when combined, influence innovation. The use of a 'Comb' score offers a broad view, suggesting that when diversity dimensions come together, innovation in Chinese organisations tends to rise. This general trend aligns with some past research, such as that by Cox & Blake (1991), which hints at the benefits of a diverse workforce in spurring fresh ideas. However, it's crucial to question and dig deeper. Firstly, while our data shows a clear positive trend, it's worth asking if there can be "too much" diversity. Some studies, like those by Stahl et al. (2010), suggest that at some point, more diversity might not add value and could even cause confusion or conflict, thus it would be of research importance to understand whether this would also be true for Chinese firms.

Furthermore, the adopted approach of merging all diversity types into one 'Comb' score is convenient but might miss out on finer details. Different types of diversity may have unique effects on innovation (Roberson et al, 2017), and by bundling them together, there are apparent risks in overlooking these individual impacts. Also, it's important to note that Chinese organisations have a distinct culture, being influenced by a mix of age-old traditions and modern trends (Chen et al, 2019). Thus, what works in other parts of the world may not directly apply to China. Nonetheless, while the results show a clear link between combined diversity and innovation, fulfilling the proposed research objective. It is also of substantial importance to fully understand the specifics of this relationship, especially given the unique nature of Chinese organisations that future studies are recommended to explore.

## **5.3 The moderating role of organisational factors on the diversity-innovation relationship in Chinese organisations**

When exploring the intricate dynamics between organizational size, diversity and innovation, the gathered data offers an insightful deviation from some conventional beliefs. The combined diversity score, referred to as 'COMB', is positively correlated with innovation. However, intriguingly, the organizational size, represented by 'OrgSize', doesn't appear to substantially modify this relationship. Within the broader academic milieu, seminal works often suggest that the structural dynamics and resources inherent to larger organizations make them more conducive to capitalizing on diversity (Hossain, 2015). Yet, in the unique Chinese business environment, this presumption seems to be somewhat mitigated. Such a finding challenges the ubiquitous belief, pointing towards a nuanced interpretation of how organizational size interacts with diversity in the Chinese context.

Alternatively, when exploring the industry nature's moderating role, the data exhibits profound new insights. Diversity's effect on innovation is conspicuously modulated by the industry in which an organization operates. Existing research has always posited the existence of industry-specific effects of diversity (Kalasin, 2021), but the current findings accentuate this stance, especially for the Chinese market. The service-based (tertiary) sectors stand out as the realms where the power of diversity is most pronounced. These industries, intrinsically more collaborative and interactive, seem to offer a conducive ecosystem where myriad perspectives amalgamate, spawning a vibrant ideation canvas. This reaffirms the notion that while diversity remains an innovation catalyst, its magnitude is particularly accentuated in service-oriented sectors within China.

Finally, the data regarding the moderating effect of organizational location offers another layer of complexity. While diversity is a potent predictor of innovation, its efficacy is not uniform across different urban tiers. This resonates with urbanistic theories like those of Elia et al (2019), underscoring the primacy of cosmopolitan urban settings in nurturing innovation. Within China, this effect seems to be most palpable in tier 1 cities, potentially due to their cosmopolitan ethos acting as crucibles of diverse interactions. This intertwining dynamics between city tier, diversity, and innovation further underscores the need for geographically nuanced strategies, particularly in China, where urban dynamics play such a pivotal role in organizational outcomes.

#### **5.4 Summary of key findings and relevance to literature**

A summary of the key findings, highlighting their relevance and relation to existing literature is as follows:

#### **Impacts of Individual Diversity Dimensions on Innovation of Chinese Organisations**

- **Gender Diversity:**
  - **Findings:** Contrary to widespread beliefs, there's a slight negative association between gender diversity and innovation in Chinese organizations.
  - **Relation to Literature:** This challenges the accepted belief from Richard et al. (2014) that gender diversity drives innovation. Eagly & Karau's (2002) Role Congruity Theory might offer an explanation, suggesting stereotypes could inhibit innovation in gender dynamics.
  - **Relevance:** This indicates a need to reassess gender roles and organizational structures in Chinese firms to unlock potential innovative capacities.
- **Age Diversity:**
  - **Findings:** There's a significant positive correlation between age diversity and innovation.
  - **Relation to Literature:** Consistent with Joshi & Roh (2009) and Shore et al (2011), emphasizing the advantages of mixing seasoned professionals with younger recruits.
  - **Relevance:** Age diversity should be strategically considered in Chinese organizations, capitalizing on intergenerational synergy for innovation.
- **Ethnic Diversity:**
  - **Findings:** A negative relationship exists between ethnic diversity and innovation in Chinese organizations.

- **Relation to Literature:** Deviates from classical studies such as Foster (1993) but aligns with Lammert & Sarkowsky's (2010) concerns on unmanaged diversity.
- **Relevance:** Emphasizes the need for improved ethnic diversity management practices in Chinese firms.
- **Cultural Background Diversity:**
  - **Findings:** A moderate positive association exists between cultural background diversity and innovation.
  - **Relation to Literature:** Echoes Cox's (1994) thesis but requires a discerning appraisal as proposed by Stahl et al (2010).
  - **Relevance:** Chinese organizations may need to analyse which dimensions of cultural diversity are harmonious to their operational ethos.
- **Cognitive Diversity:**
  - **Findings:** A substantial positive relationship exists between cognitive diversity and innovation.
  - **Relation to Literature:** Aligns with Milliken & Martins (1996) and Hong & Page (2004) on the innovative capacities of cognitive diversity.
  - **Relevance:** Emphasizes the value of promoting cognitive diversity in China's business environment.

### **Combined Effects of Diversity Dimensions on Innovation in Chinese Organisations**

- **Findings:** As diversity dimensions combine, innovation in Chinese organisations tends to rise.
- **Relation to Literature:** This general trend aligns with Cox & Blake (1991) but also poses questions as hinted by Stahl et al. (2010) regarding potential conflict with increased diversity.
- **Relevance:** Provides a broader perspective on the value of holistic diversity, suggesting careful management to optimize benefits.

### **Moderating Role of Organisational Factors on the Diversity-Innovation Relationship in Chinese Organisations**

- **Organizational Size:**

- **Findings:** Size doesn't substantially influence the positive relationship between combined diversity and innovation.
  - **Relation to Literature:** Challenges the notion from Hossain (2015) about larger organizations being more favourable for diversity.
  - **Relevance:** Encourages Chinese organizations, regardless of size, to harness diversity benefits.
- **Industry Nature:**
    - **Findings:** Diversity's effect on innovation varies by industry, being pronounced in service sectors.
    - **Relation to Literature:** Emphasizes industry-specific effects as previously indicated by Kalasin (2021).
    - **Relevance:** Indicates that service-oriented sectors in China might be the most promising areas to leverage diversity.
  - **Organizational Location:**
    - **Findings:** Diversity's innovation efficacy varies across urban tiers.
    - **Relation to Literature:** Aligns with theories from Elia et al (2019) about cosmopolitan settings fostering innovation.
    - **Relevance:** Suggests a tailored, geographically-informed approach for diversity strategies in Chinese businesses.

## 6. Conclusion

The purpose of this study was to rigorously examine the relationship between various dimensions of diversity and innovation within the context of Chinese organizations. In doing so, the research aimed to provide insights into how specific elements of diversity, including gender, age, ethnicity, cultural background and cognitive diversity, influence innovation individually and collectively. From the data gathered, it is evident that diversity, in its multiple forms, impacts innovation differently within Chinese organizations as each diversity dimension examined holds its unique implications for innovation. However, their combined effect provides a holistic view of how diversity can enhance or impede innovative capacities. Furthermore, the study delved into the role of specific organizational factors, such as size, industry and location, as potential moderators in the diversity-innovation relationship. The findings revealed that the factors of organisational industry and location indeed shape the ways in which diversity affects innovation in various settings, suggesting a complex and multi-faceted interaction. In summary, this research has advanced the academic understanding of the dynamics between diversity and innovation in China. The research findings also contribute with practical implications, offering guidance for

organizations on where to focus their diversity-related strategies to enhance innovation and remain competitive.

## 6.1 Limitations and implications for future studies

A key limitation lies in the range of diversity dimensions explored. While this study encompassed aspects like gender, age, ethnicity, cultural background and cognitive diversity, there are other potential facets that remain unexamined, such as educational background or more nuanced intra-cultural diversities within China. Methodologically, the cross-sectional nature of this study allows for association identification but does not establish causality. Subsequent research employing a longitudinal design would be better suited to elucidate causal relationships between diversity and innovation over time. Furthermore, the reliance on self-reported data poses potential bias risks, which should be considered when interpreting results. While the findings are contextualized within China, generalizing these results to other cultural or regional settings might not be appropriate. Even within China, regional variances could present different dynamics that warrant a granular investigation.

The decision to investigate organizational size, industry and location as moderating variables was based on identified research gaps, yet other organizational factors remain unexplored. Future research can consider delving into the roles of corporate culture, leadership dynamics, and organizational structure in influencing the diversity-innovation nexus. From an implication perspective, future research avenues might encompass a deeper exploration into the underlying mechanisms that drive the observed relationship between diversity and innovation. Potential mechanisms could include diversity's role in enhancing team creativity, influencing risk tolerance, or cultivating an inclusive environment that is conducive to innovative thinking.

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