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How does Humane Entrepreneurship strategy drive Innovation and Competitive Performance of High-Tech SMEs? Evidence from China

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ABSTRACT

The objective of the study is to shed light on how learning orientation and innovation capacity are affected by the incorporation of social and ethical considerations into entrepreneurial endeavors by analyzing the principles and practices of "humane entrepreneurship." More specifically, this study explores the role of humane entrepreneurship in fostering innovation and competitive performance of High-Tech sector SMEs in China. The data was collected using survey method from 335 managers in the High-Tech sector that was analysis using SPSS and AMOS graphics. In this paper, structural equation modeling (SEM) was used to investigate the hypotheses that were proposed. The research that was carried out in this paper offered evidence to support the validity of the assertions that a humane entrepreneurship approach and a learning orientation have a considerable impact, both of which are positive, on a company's ability to innovate. Even though it was discovered that learning orientation does not have a direct impact on competitive performance, it is essential to take into consideration other aspects that may influence the connection between the two variables. It is possible to draw the following conclusion as a result: humane entrepreneurship plays a major role in developing innovation capacity as well as competitive performance, both of which are significant aspects in improving the performance of a business.

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1. Introduction

Humane entrepreneurship promotes a company culture that values honesty, transparency, and collaboration. When workers feel safe sharing their ideas and opinions without fear of retaliation, an environment conducive to creativity is fostered (Zeb, Abdullah, Hussain, & Safi, 2020). When people feel comfortable speaking their minds, they are more likely to engage in conversations that could lead to the creation of innovative solutions (Brown & Hurley, 2009). Moreover, a culture of mutual respect and acceptance fosters a feeling of belonging among employees at all levels and encourages them to work together toward a common goal. Furthermore, the foundation of humane entrepreneurship is the belief that employees should be able take recognition for their own work and ideas. Employees are more likely to take chances and try new things when they feel trusted and empowered by their managers. Empowering people helps them feel like their ideas and efforts matter, which boosts their drive and innovation (Ertürk, 2012). The importance of workers' wellbeing and satisfaction is also recognized by humane business practices. It is possible to lower stress levels and avoid burnout by making work-life balance a priority and implementing wellness programs and flexible work arrangements (Starmer, Frintner, & Freed, 2016). When workers are both mentally and physically healthy, they are in a better position to participate in creative thinking and to find solutions to problems. It is essential for the development of creativity to

have a mind that is well-balanced and well-rested since such a mind is better equipped to generate innovative ideas and tackle difficulties from various perspectives.

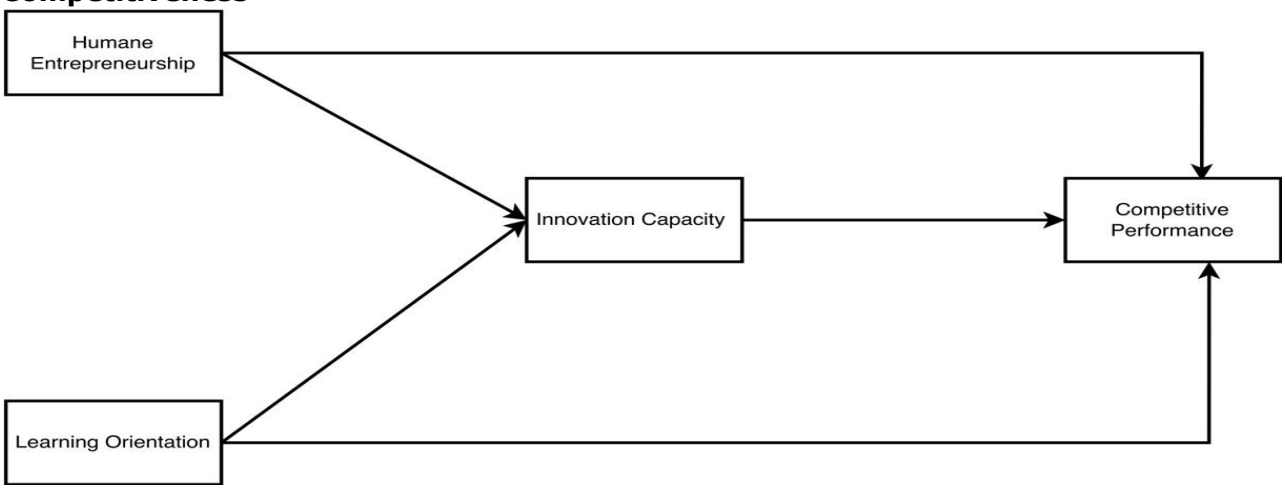
In the constantly evolving landscape of the modern business world, companies that put human values at the core of their operations can build a workforce that is not just motivated, but also genuinely engaged (Walumbwa, Christensen, & Hailey, 2011). Employees discover a compelling reason to commit to an organization and continue showing loyalty when they are surrounded by a supportive culture that values their health and promotes a healthy work-life balance (Kar & Misra, 2013). This unflinching allegiance forms the base upon which the competitive performance of a firm thrives, and it is driven by a workforce that is both innovative and passionate. Within the context of humane entrepreneurship, a business can cultivate its reputation by establishing itself as an employer that is profoundly concerned about the all-around development of its workforce. This reputation functions as a magnetic force, drawing in top-tier talent while simultaneously retaining talented employees. As a result, turnover rates are successfully reduced, and recruitment and training costs are reduced as well. Because of this strategic investment in the workforce, we now have a staff that is both empowered and steadfast, which has the effect of increasing our competitive advantage over other companies (Chakraborty & Biswas, 2019).

Furthermore, a learning-oriented organization devotes its resources to gathering and processing information and ideas from a variety of internal and external sources (Wolff, Pett, & Ring, 2015). It can respond quickly to shifting market conditions and advances in technology because of the insatiable desire for new knowledge and experience. In turn, this flexibility supports the company's ability to innovate, allowing it to swiftly capitalize on opportunities and overcome obstacles when they emerge (Kotter, 2012). A culture that is centered on learning encourages employees of all levels to become entrepreneurs, who are people who actively seek out and develop creative ideas within an organization (Gibb, 2002). Businesses can spark a continuous flow of new ideas if they provide their staff the opportunity to develop their own creative potential. The chain of innovation is fueled by these ideas, which are the result of a foundation built on constant learning (Troisi, Visvizi, & Grimaldi, 2021). This pathway is what drives the development of ground-breaking goods, services, and processes. Learning orientation encourages businesses to see failures and losses not as deterrents but rather as useful learning experiences that may be gained from them (Lattacher & Wdowiak, 2020). This mentality supports experimentation as well as risk-taking on a measured level, both of which are crucial components in the process of developing innovation (Calantone, Cavusgil, & Zhao, 2002). An organization can achieve a competitive advantage and boost competitive performance by rapidly adjusting to shifting customer preferences and market demands if it encourages its people to test and refine their own ideas. This gives the organization a distinct advantage in the marketplace.

The sharing of information among employees is highly valued by the learning orientation of a business. A collective intelligence can begin to form when individuals openly share their ideas, experiences, and recommendations for the best practices (Wu & Lin, 2013). The exchange of this information helps to speed up the process of innovation by building upon the insights gained by other people, preventing unnecessary repetition of efforts, and moving the company toward the development of fresh solutions. Learning orientation starts with leaders that advocate a culture of continual development and personal progress (Sawaean & Ali, 2020). This is the first step in developing a learning orientation. These leaders inspire their teams to follow their lead by continuously searching out new information, being open to new experiences, and encouraging others to do the same. Their insightful leadership motivates staff members to cultivate an attitude of lifelong learning, which, in turn, affects the entire organization, fostering creativity and enhancing the company's ability to compete successfully. In conclusion, there is a wide range of interconnected pathways via which a learner's orientation affects their ability to innovate and perform competitively. Organizations can support adaptive knowledge absorption, intrapreneurship, experimentation, cooperation, knowledge dissemination, leveraging of consumer insights, and sustained agility by promoting a culture of continuous learning. Learning orientation becomes a driving force that fuels innovation and builds an adequate foundation for gaining and keeping a competitive edge to reinforce competitive performance.

According to stakeholders' theory (Freeman, Harrison, Wicks, Parmar, & De Colle, 2010), companies should consider the concerns and requirements of all its stakeholders, including their workers, their clients, their vendors, and society. This theory is consistent with the concept of humane entrepreneurship, which places an emphasis on taking a comprehensive approach to conducting business. This approach considers the well-being of all stakeholders and seeks to create value for those stakeholders using innovative solutions. In addition, resource-based view (Barney, 1991) and (Wernerfelt, 1984) maintains that the distinctive resources and competencies of a company constitute a company's primary source of competitive advantage. The concept of humane entrepreneurship can be seen as a distinctive asset that sets a company apart from its rivals in the marketplace. When social and ethical considerations are prioritized, it can lead to the development of creative techniques that differentiate the company's operations and attract customers who are socially conscious. In summary, the theories shed light on the interconnected nature of humane entrepreneurship and innovation capabilities. Entrepreneurs may drive innovation that not only generates profit but also contributes positively to society and the well-being of many stakeholders if they consider social, ethical, and environmental factors in their decision-making processes. Similarly, these initiatives can serve as antecedent factors to drive competitive performance. Accumulating the theoretical discussion with relevant theories such as stakeholder theory and resource-based view, we presume that humane entrepreneurship strategy strengthens innovation capacity and competitive performance of SMEs in the high-tech sector of China. Based on said argument, the following theoretical framework is proposed to show the transformation of humane entrepreneurship into innovation capacity and competitive performance. Figure 1 is proposed theoretical model.

Figure 1: Theoretical Model for Humane Entrepreneurship driven Innovation and Competitiveness



1.1. Hypothesis Development

Adopting the fundamentals of humane entrepreneurship means taking an active part in activities that are socially responsible and make a beneficial contribution to both society and the environment (Kim, ElTarabishy, & Bae, 2018). Consumers tend to have a more favorable opinion of businesses those are socially responsible (Mohr, Webb, & Harris, 2001). Having a favorable image in the eyes of the public is essential to constructing a solid reputation and increasing the value of a brand (Zameer, Wang, Yasmeen, Mofrad, & Waheed, 2018). Consumers in today's market are more concerned not only about the price and quality of the goods they purchase, but also about the ethics and social responsibility of the businesses they support (Du, Bhattacharya, & Sen, 2010). There is a link between a company's association with ethical business practices and a greater sense of social responsibility, which can result in enhanced consumer loyalty (Iglesias, Markovic, Bagherzadeh, & Singh, 2020). Customers are more likely to remain loyal to a brand if the company maintains their core beliefs and has a beneficial influence in the world. A foundation of ethical business practices can also serve as the basis for constructing a powerful brand recognition (Baruah & Panda, 2020). Consumers will have an easier time recognizing and selecting the goods and services of businesses that are known for their ethical behavior since these businesses stand out from their competitors and are recognized for their superior behavior. Because people are attracted to companies

that they trust and respect, this has the potential to finally translate into a competitive performance.

In contrast, some scholars believe that putting an emphasis on social responsibility will lead to an increase in costs, which will then reduce profit margins (Wang, Xing, & Zhao, 2022). Investments in areas such as employee well-being, environmental sustainability, and ethical sourcing could impose a pressure on financial resources, which could potentially have a negative impact on competitive performance, particularly in the short term (Wang et al., 2022). Further, companies that promote humane entrepreneurship may be at a competitive disadvantage in industries where other businesses place a higher priority on making profits than adhering to ethical standards. Businesses whose main objective is to maximize profits may opt for cost-saving strategies that put ethical considerations at risk, such as taking shortcuts regarding labor standards or environmental regulations. Such types of businesses may choose to operate in a manner that is unethical. This could result in lower production costs and, consequently, lower prices, which may attract customers who are price sensitive. Because of this, businesses who place an emphasis on humane entrepreneurship and make investments in socially responsible practices may find it difficult to compete on price with their competitors who are less ethically sensitive. Consumers that place a high priority on cost-effectiveness may be less likely to purchase a product or service that is more expensive overall owing to ethical issues. In summary, the influence that emphasizing humane entrepreneurship has on a company's level of competitive performance is not obvious and contingent on the context. It is difficult to ignore the fact that there may be potential issues connected to expenses, competition, and mistrust on the part of customers, even though it presents prospects for increased brand value, innovation, and long-term sustainability. In the end, successful implementation calls on striking a delicate balance between ethical concerns and strategic commercial objectives. Similarly, we propose that in the context of high-tech sector SMEs, humane entrepreneurship could positively drive competitive performance, the following hypothesis is developed in this regard:

H_1: Humane entrepreneurship positively drive competitive performance in high-tech SMEs.

Businesses are encouraged to think about the ethical implications of their innovations when they practice "humane entrepreneurship." This can result in the creation of goods and services that put greater importance on the well-being of society as well as the environmental sustainability, which can stimulate innovation that is in line with more expanded social goals (Stephan, Andries, & Daou, 2019). Moreover, businesses have the potential to improve their reputation and foster closer connections with customers, employees, and other stakeholders if they adopt the principles of social responsibility and put them into practice. This can result in more sustainable business models, as well as an increase in trust and loyalty, which in turn makes it possible for firms to innovate for the long term (Cillo, Petruzzelli, Ardito, & Del Giudice, 2019). Additionally, corporations can gain an advantage in the marketplace by distinguishing from other companies through the practice of humane entrepreneurship. Practices that are ethically and socially responsible have the potential to attract an expanding segment of customers who put an emphasis on ethics and sustainability, so opening the door for opportunities for innovation (Muñoz & Cohen, 2018). In contrast, there are others who believe that an intense concentration on ethical and social responsibility could be counterproductive to creativity and innovation (De Colle, Henriques, & Sarasvathy, 2014). It is possible that businesses would become inappropriately careful in their search for new ideas to minimize the possible negative consequences of their efforts. This could result in incremental rather than transformative advancements. Based on the discussion, it can be said that humane entrepreneurship could have positive or negative effects on the innovation capacity of the firm. However, no study in the past has theoretically or empirically tested this connection, therefore, we propose the following theoretical hypothesis for empirical testing in the context of high-tech SMEs.

H_2: Humane entrepreneurship strengthens innovation capacity in the high-tech SMEs.

There has been plenty of discussion and investigation into the impact that a learning orientation plays in a company's level of competitive performance in the domains of business,

management, and psychology (Suliyanto & Rahab, 2012). A learning orientation is a perspective that puts a significant focus on ongoing learning, adaptation, and development (Sujan, Weitz, & Kumar, 1994). This attitude can be adopted by an organization or by an individual. Further, learning orientation put a strong emphasis on the continuous learning of new knowledge and abilities across the years, which can result in a sustained advantage over other businesses (Baker & Sinkula, 1999). Learning is given a higher priority by organizations, making them better able to recognize and capitalize on new opportunities, as well as improve the capability to adapt to shifting market conditions and technological advances. People and businesses with a focus on learning are more likely to find creative solutions to challenges. They take on problems with an open mind and a willingness to try new things, which usually results in better outcomes in terms of performance. Whereas the financial and operational resources available to small firms and startups are frequently inadequate. It's possible that these companies' attention and funds will be taken away from their primary business activities, which are the ones that directly contribute to growth and competitiveness, when they commit resources to socially responsible initiatives. To empirically test the role of learning orientation toward competitive performance, we posit following hypothesis.

H_3: Learning orientation could reinforce competitive performance of the high-tech SMEs.

There is much more to discover about the connection between a learning orientation and innovation capability. On the one hand, a mindset geared toward learning acts as a stimulus for innovation by making it possible to adjust to new conditions and inspiring cautious risk-taking (Graciano, Lermen, Reichert, & Padula, 2022). This method promotes the incessant activities—exploration, experimentation, and knowledge acquisition—that are vital to the creation of new ideas (Argote, Lee, & Park, 2021). Nevertheless, the pursuit of knowledge and creativity might call for significant investments of time, labor, and capital, among other resources (Gerhart & Feng, 2021). It is possible that organizations will find themselves in a position where they must make difficult decisions regarding the distribution of these resources, such as whether to devote them to meeting immediate operational demands or to longer-term innovative initiatives. Further, the enthusiastic adoption of a learning orientation may, on the other hand, accidentally lead to a fragmentation of focus (Ghantous & Alnawas, 2020). It is of the utmost importance to integrate effective learning with productive action. This involves transforming the insights gained from learning initiatives into actionable strategies, efficiently managing available resources, and ensuring that the pursuit of knowledge is in line with the larger objectives of the business. In the light of discussion, we propose following hypothesis:

H_4: Learning orientation strengthens innovation capacity in the high-tech SMEs.

The ability of a corporation to innovate effectively can considerably boost the company's ability to compete (Qiu, Jie, Wang, & Zhao, 2020). It enables a firm to produce new products, services, and processes, which can provide the organization with a competitive advantage in the market. This capability can help a company stay ahead of its competition and keep or even grow its market share by keeping the company at the forefront of continual innovation (Lin, Zhang, Yan, & Jiang, 2020). With the use of innovation capacity, businesses may set themselves apart from rivals by providing customers with something unique and valuable (Broadstock, Matousek, Meyer, & Tzeremes, 2020). This unique selling proposition has the potential to increase brand awareness and consumer loyalty, providing a sustainable competitive performance (Zhu, Lin, Jiang, & Liu, 2022). Firms that place a strong emphasis on innovation are in a stronger position to remain successful over the long run (Lestari, Leon, Widyastuti, Brabo, & Putra, 2020). They can forecast changes in the market, locate new chances for growth, and devise plans to ensure that they continue to be relevant over time, resulting better competitive performance. However, developing and sustaining one's innovative capacity can require a significant investment of resources (Ahmadi, Lo, Gupta, Kusi-Sarpong, & Liou, 2020). It can put a burden on a company's financial and human resources to make investments in research and development (R&D), hire qualified staff, and allocate resources for experimentation. This is especially true for smaller enterprises that have more constrained budgets. Although innovation may provide a temporary advantage over competitors, that advantage is not guaranteed to be sustainable. When successful innovations are easy to duplicate by competitors, this results in advantages that are only temporary. This

fast replication can nullify the benefits of innovation and undermine any edge that a company may have over its competitors. Consequently, to empirically test the role of innovation capacity in competitive performance of SMEs, we propose the following hypothesis:

H_5: Innovation capacity of the high-tech SME drive its competitive performance.

At its foundation, humane entrepreneurship is characterized by the alignment of business processes with ethical considerations and a responsibility to the community. This alignment results in the creation of a framework that encourages firms to not only concentrate on activities that are motivated by the pursuit of profits but also to actively engage with the requirements and difficulties faced by society (Le, 2022). Because of this larger viewpoint, businesses are compelled to look for new solutions that not only satisfy the requirements of traditional markets but also make a beneficial contribution to the health and happiness of stakeholders, communities, and the environment. Companies that place an emphasis on ethics and social responsibility are more likely to come up with innovative solutions to challenges (El Tarabishy, Hwang, Enriquez, & Kim, 2022). Humane entrepreneurship, in essence, fosters a culture that encourages innovation motivated by a higher purpose. Organizations are pushed to look beyond short-term profits and invest in the long-term value creation of all stakeholders when ethical issues penetrate the very foundation of company operations. By encouraging an outlook that views innovation as a powerful weapon for real societal change and sustained distinctiveness, this strategy improves competitive performance. Similarly, we propose that innovation capacity could mediate the relation between humane entrepreneurship and competitive performance. Following hypothesis developed in this regard.

H_{1a}: Innovation capacity mediates the relationship between humane entrepreneurship and competitive performance of SMEs in the high-tech sector.

Companies with a strong learning orientation are always constantly looking for fresh information and ideas from their customers, their competitors, and the latest scientific research. This comprehensive understanding serves as an umbrella for discovering fresh market opportunities threats, and developments (Sawaean & Ali, 2020). A company's ability to adapt to shifting consumer preferences depends on its employees' familiarity with the most recent developments and tendencies. Organizations constantly evaluate and improve their ways of coming up with new ideas, which makes them better at coming up with new ideas over time. Similarly, it can be argued that a firm learning orientation could influence innovation capacity which can further serve as an antecedent factor of competitive performance. Consequently, following hypothesis is proposed:

H_{2a}: Innovation capacity mediates the relationship between learning orientation and competitive performance of SMEs in the high-tech sector.

2. Research Methodology

Based on the relevant literature, humane entrepreneurship strategy was measured using six-items scale adopted from the study of Le (2022). Following the study of Meekaewkunchorn, Szczepańska-Woszczyna, Muangmee, Kassakorn, and Khalid (2021), we also adopted 11-items scale based on the studies of S. S. Liu, Luo, and Shi (2002) and Sinkula, Baker, and Noordewier (1997) to measure firm learning orientation. The scale used to measure innovation capacity consist of 8-items which incorporate 4-items related to capacity to manage technology and 4-items related to capacity to manage research and development (Prajogo & Ahmed, 2006). We adopted 6-items scale to measure competitive performance from Mikalef, Krogstie, Pappas, and Pavlou (2020) that is actually based on the studies of Rai and Tang (2010) and H. Liu, Ke, Wei, and Hua (2013). Based on the claims, competitive performance may be evaluated using just subjective information, we analyzed it as a formative latent variable with the use of five indicators. On a 5-point Likert scale, respondents were asked to rate how much they agreed or disagreed with the statement. In this paper, we have adopted five-point Likert-scale in our questionnaire where 1=strongly disagree, 2=disagree, 3= neutral, 4=agree and 5=strongly agree.

The survey instrument also contains a section to collect demographics information of respondents which includes gender, professional job level, total years of experience and age of

the company. Prior to final use of questionnaire, it is important to check its relevancy and effectiveness for understanding. Similarly, to confirm that the items used in the instrument were relevant to the academic research, it was examined by two professors in the relevant field. Once the instrument is finalized, it was used for pilot testing. We used 30 respondents to perform pilot test for our study. Using relevant measures from academic research, such as Cronbach's alpha coefficient, we analyzed the reliability of the scale. We found Cronbach's alpha coefficient for our scale is above 0.70 which meets the standard criteria; hence scale is reliable and can be used for collecting primary data. Final data was gathered from 335 managers that is used in this study. This study aimed to achieve two primary objectives by conducting a focused investigation on managers within the high-tech sector. The first objective was to examine the interconnectedness among different factors, while the second objective was to verify the proposed theoretical model. The utilization of survey responses facilitated the acquisition of data, which in turn facilitated a thorough examination, thereby yielding valuable insights pertinent to the objectives of the research.

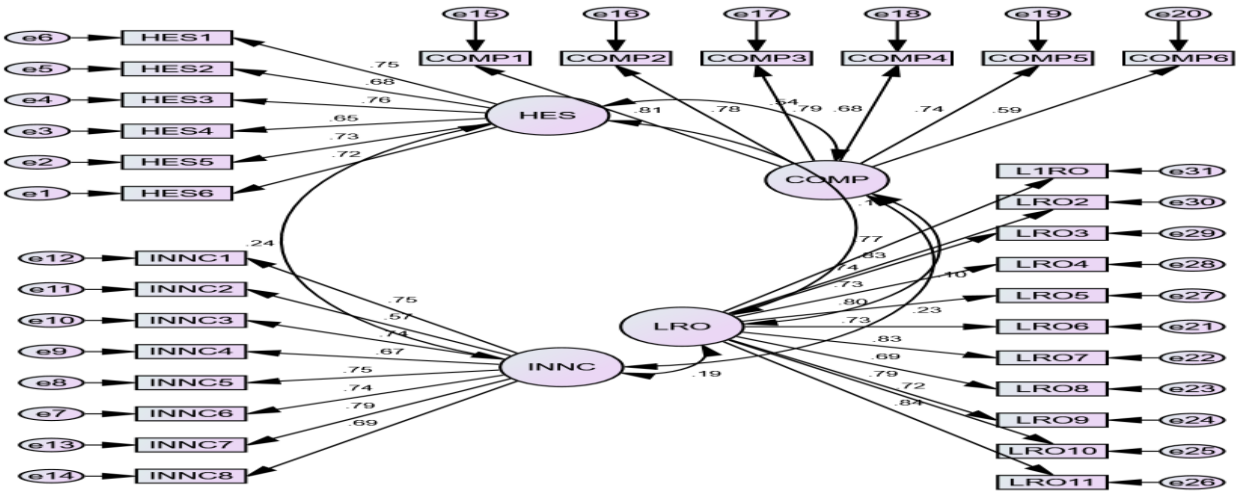
3. Data Analysis

To calculate the results, we used SPSS 21.0, AMOS 21.0, and several plugins to extend the functionality of each program.

3.1. Factor Analysis

The graphical representation of the findings obtained through confirmatory factor analysis (CFA) is presented in Figure 2, which illustrates the measurement model diagram. Table 1 presents a comprehensive set of detailed findings, each of which is illustrated upon in greater detail. Significantly, the p-value associated with these findings is less than 0.01, suggesting a substantial degree of confidence in the results. The graphical representation in Figure 2 provides a comprehensive illustration of the connections between the observed variables and the latent constructs in the structural model. Table 1 provides a detailed breakdown of the findings obtained from the CFA analysis. The presented information exhibits the factor loadings of each observable variable on the constructs that pertain to said variables. It is worth noting that all the factor loadings in the study exceed the minimum threshold level of 0.50.

Figure 2: CFA Humane Entrepreneurship driven Innovation and Competitiveness Model



To assess the reliability of a scale, researchers commonly employ Cronbach's alpha coefficient. The commonly accepted critical value for the Cronbach's coefficient is 0.7. When the value exceeds 0.70 and exhibits an upward trend, it indicates that the scale is more optimal, and the reliability is enhanced. Nevertheless, it is important to note that in empirical studies, there exist instances where the coefficient is found to be below the threshold of 0.7. Currently, the coefficient that is deemed acceptable falls within the range of 0.6 to 0.7. If the coefficient is below 0.6, the scale cannot be considered suitable for empirical research due to its unreliability, resulting in unstable collected results. Hence, the interpretation of Cronbach's alpha should be conducted within the framework of the research investigation. The value of Cronbach's alpha (α) coefficient (as shown in the table 1) for humane entrepreneurship is 0.841, for learning orientation the value is 0.938, the value for innovation capacity is 0.872,

and the value for organization competitive performance scale is 0.873. In overall, the Cronbach's alpha (α) coefficient values for all constructs under investigation in this study exceeds threshold level of 0.70, indicating a high level of reliability for the measures employed.

The scale that was utilized in this research demonstrates that the factor loading for all of the variables is greater than 0.60; hence, the scale satisfies the criteria for indication reliability. In addition to this, we used Cronbach's coefficient to evaluate the overall reliability of the scale. The fact that the Cronbach's coefficient for each of the constructs is greater than 0.70 indicates that the scale may be relied upon in its whole.

Table 1: Factor Loadings and Reliability Analysis

Construct	Factor loadings (>0.5)	Cronbach's alpha (α) / C.R	AVE
Humane Entrepreneurship Strategy		0.841/0.863	0.512
The corporate culture of the company places a strong emphasis on empathy	0.75		
In our company, we always try to enable and empower our employees	0.68		
This company always maintain equity in the corporation	0.76		
When making business decisions, we incorporate the interests of stakeholders, the environment, and society	0.65		
Our company takes an active role in adapting to the ideas of the circular economy	0.73		
From the perspective of corporate ethics and responsibility, we understand that making changes for stakeholder sustainability is essential	0.72		
Learning Orientation		0.938/0.942	0.595
The fundamental principles of this organization include learning as the key to progress	0.77		
All employees are devoted to the organization's mission	0.83		
The key to our competitive advantage is our organization's capability for learning new knowledge and/or skills	0.74		
The prevalent opinion is that employee learning is an investment, not an expense	0.73		
In my organization, learning is regarded as a vital resource required for organizational survival	0.80		
There is a commonality of purpose in my organization	0.73		
The entire organization shares the same goals	0.83		
Employees feel like partners in the company's development	0.69		
We have no issues about critically evaluating our shared assumptions about our customers	0.79		
Workers here are aware that their fundamental framework for understanding the market is open to criticism	0.72		
Collectively, we rarely evaluate our own biases regarding how we interpret customer data	0.84		
Innovation Capacity		0.872/0.893	0.511
Our organization strives to be at the forefront of our field in terms of technological innovation	0.75		
We try to foresee the full potential of emerging methods and tools	0.57		
To develop technological capabilities in advance of our needs, we pursue long-range programs	0.74		
Our minds are always on the next technological advancement	0.67		
Research and development (R&D) department and the rest of the company can communicate effectively	0.75		
Our R&D efforts are focused on cutting-edge innovation	0.74		
Our research and development focus are mostly on high-risk endeavors with promising returns	0.79		
Investment in R&D is critical to the success of our company	0.69		

Competitive Performance		0.873/0.875	0.541
This year our company profitability was higher than our competitors	0.81		
We capture the most of market share	0.78		
Our growth rate is higher compared with our competitors	0.79		
We are more innovative	0.68		
Our company has cost advantage compared with competitors	0.74		
Our delivery cycle time is better than our competitors	0.59		

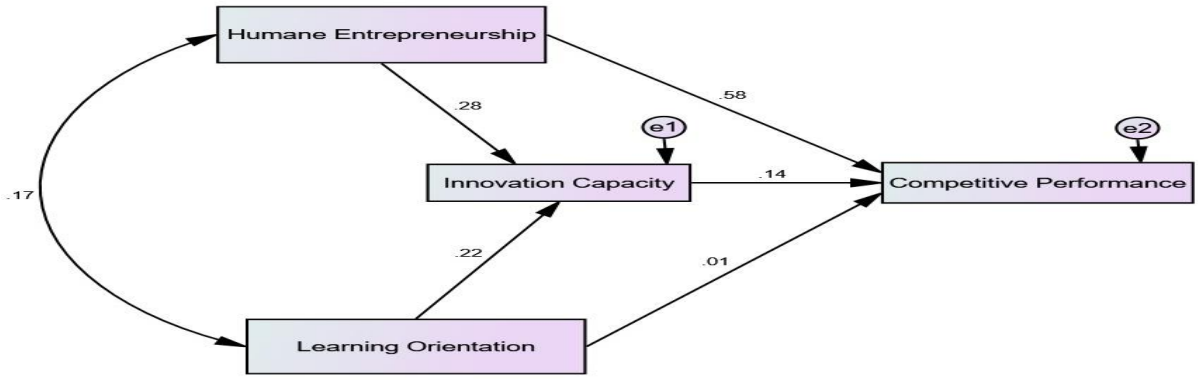
Note. All factor loadings are significant at: $p < 0.01$.

After ensuring that the data satisfies the criteria for validity and reliability analysis, the subsequent stage involves examining the structural relationships. In this dissertation, we utilized a structural equation model to validate the theoretical model and examine the structural relationship. The findings will be presented in the subsequent section.

3.2. Model Analysis

Based on the preceding discussions, it is viable to contend that the outcomes of the model iteration and testing suggest that the constructs possess a satisfactory degree of reliability and validity. Given the considerations mentioned above, a decision has been made to proceed with the implementation of the structural equation modeling technique. This will enable the evaluation of the hypothesis that has been put forth to test the theoretical model associated to driving innovation and competitiveness through the adoption of a humane entrepreneurship strategy within the high-tech sector of China.

Figure 3: Estimated Model for Humane Entrepreneurship driven Innovation and Competitiveness



The structural model, along with their standardized estimations, are depicted in Figure 3. When evaluating the predicted pathways, the utilization of standardized coefficients is usually considered to be a trustworthy method by the scientific community. The results of fitting the model indicate that the values for CFI, GFI, RMSEA, and CMIN/DF are accordingly 2.88, 0.064, 0.99, and 0.99 respectively. The analysis satisfies the predetermined requirements of good model fit. As soon as the model satisfies the criteria for reliability and validity, one can proceed with testing the hypothesis. The obtained results are deemed acceptable and satisfy the goodness-of-fit criteria of the model ((Byrne, 2013; Kline, 2011)). Therefore, the obtained results can be utilized for the purpose of carrying out hypothesis testing.

3.3. Hypothesis Testing

Hypothesis testing is a statistical methodology employed to evaluate the adequacy of available data in providing evidence to support or refute a specific proposition. Hypothesis testing is an important tool that allows us to evaluate the evidence that supports or disproves a proposition. The analysis of indirect relationships between variables requires the inclusion of mediating variables, which play a crucial role. Traditional methods, as suggested by ((Baron & Kenny, 1986; Sobel, 1982)), have limitations. However, newer approaches like the partial posterior method and structural equation modeling have been developed. The use of newer methods is beneficial as they offer improved statistical power, making them highly recommended for analyzing mediation effects.

Table 2: Analysis of Direct Effects

	Independent Variable		Dependent Variable	β	S.E.	C.R.	P
H1	Humane Entrepreneurship	→	Competitive Performance	.584	.043	13.096	***
H2	Humane Entrepreneurship	→	Innovation Capacity	.285	.042	5.573	***
H3	Learning Orientation	→	Competitive Performance	.011	.044	0.248	.804
H4	Learning Orientation	→	Innovation Capacity	.224	.044	4.394	***
H5	Innovation Capacity	→	Competitive Performance	.137	.054	2.987	.003

Note: *** indicate that p-value is <0.001

Figure 3 presents the outcomes of path analysis conducted through structural equation modeling (SEM); wherein standardized estimates (β) were utilized. In this section, the analysis focuses on the examination of five direct relation hypotheses and two mediating effect hypotheses that were proposed in previous section, based on the results obtained from analysis in this section. Table 2 displays the direct effects of constructs and offers a concise overview of the findings related to hypotheses 1-5. The findings presented in the table 2 show that humane entrepreneurship strategy significantly improve SME competitive performance with β=0.584 and p-value<0.001. Hence hypothesis 1 is statistically supported. Another hypothesis (H2) was developed to show that humane entrepreneurship strategy of SME could improve its innovation capacity. The results reveal that humane entrepreneurship strategy positively contributes towards innovation capacity building to the firm. Hence hypothesis 2 is statistically proved with β=0.285 and p-value<0.001.

Furthermore, it was presumed that learning orientation of SME could improve its innovation capacity and competitive performance in Chinese high-tech sector. Hypothesis 3 and hypothesis 13 was proposed in this regard. The results indicated (for hypothesis 3) that learning orientation of SME in high-tech sector could not directly lead towards competitive performance. The results are insignificant having β=0.011 and p-value>0.05 indicating that hypothesis 3 is not supported. In contrast, the results show that learning orientation of SME improves its innovation capacity. The results are significant having β=0.224 and p-value<0.001, indicating that hypothesis 4 is statistically true. Finally, it was presumed that innovation capacity could serve as an antecedent factor to improve competitive performance of SMEs in the Chinese high-tech sector. Hypothesis 5 was developed in this regard. The results highlight that innovation capacity of the SME is key determinant to drive competitive performance. the findings are significant having with β=0.137 and p-value<0.001 indicating hypothesis 5 is supported. It can be summarized that humane entrepreneurship and learning orientation of the SMEs could drive innovation capacity which in turn foster competitive performance.

Furthermore, this study examined the significance of innovation capacity of the SMEs in relation to their role as mediating variable. The study utilized structural equation modeling, a robust and reliable technique for analyzing structural relationships, to estimate mediation. Table 3 displays the results obtained from the mediation analysis.

Table 3: Analysis of Mediation

	Estimated Indirect Path	β	S.E.	P
H1a	Humane Entrepreneurship → Innovation Capacity → Competitive Performance	.038	.015	0.002
H2a	Learning Orientation → Innovation Capacity → Competitive Performance	.031	.012	0.001

Analysis for mediation follows discussion of the direct relationship hypothesis. The study used in-depth analytic approaches to probe mediation. The outcomes are displayed in table 3. The direct relationship between humane entrepreneurship approach and competitive performance of Chinese SMEs in the high-tech sector was initially examined before moving on to the mediation study. The results demonstrate that there is a significant relationship between the two variables (path coefficient = 0.584, p-value = 0.000). It is also believed that there is a direct link between competitive performance and humane entrepreneurship. According to the mediation analysis, there is evidence for hypothesis H1a: there is a connection between humane entrepreneurship and competitive performance, and this

connection is mediated by innovative capacity (path coefficient = 0.038, p-value = 0.002). Since the direct relationship is also strong, we can conclude that innovation capacity acts as a partial mediator between humane entrepreneurship and the competitive performance of SMEs. It was also hypothesized in H2a that SMEs' ability to innovate would mediate the connection between learning orientation and competitive performance. This mediation analysis began with an examination of the direct correlation between learning orientation and competitive performance. The results demonstrate that the relationship is not significant, with a path coefficient of 0.011 and a p-value of 0.804. In this analysis, innovation capability was considered as a potential moderating factor. The purpose of developing Hypothesis H2a was to provide evidence that innovation capability mediates the connection between a humane entrepreneurship strategy and competitive performance. The results suggest that H2a is supported at the 1% level of significance, with a path coefficient of 0.031 and a p-value of 0.001.

4. Conclusion

The primary objective of this paper was to conduct an empirical analysis of the proposed theoretical model. The model emphasizes the reinforcement of competitive performance and fostering innovation capacity through the of humane entrepreneurship. The statement emphasizes the importance of humane entrepreneurship in enhancing innovation capacity and competitive performance. Based on a review of the theoretical literature, it has been hypothesized that small and medium-sized businesses (SMEs) may have the potential to increase the effect that humane entrepreneurship has on innovation capability and competitive performance. This paper presents a comprehensive framework that has been designed and integrated to enhance the capacity for innovation and competitive performance by means of humane entrepreneurship and learning orientation. The ability for innovation is incorporated into the framework as a mechanism that has the potential to serve as a mediator between learning orientation, humane entrepreneurship, and competitive performance. Individuals working for small and medium-sized firms (SMEs) in China's high-technology industry were requested to provide relevant data using questionnaire. In this paper, structural equation modeling (SEM) was used to investigate the hypotheses that were proposed. The research that was carried out in this part offered evidence to support the validity of the assertions that a humane entrepreneurship approach and a learning orientation have a considerable impact, both of which are positive, on a company's ability to innovate. Even though it was discovered that learning orientation does not have a direct impact on competitive performance, it is essential to take into consideration other aspects that may influence the connection between the two variables. It is possible to draw the following conclusion as a result: humane entrepreneurship plays a major role in developing innovation capacity as well as competitive performance, both of which are significant aspects in improving the performance of a business.

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