The Determinants of Corporate Innovation: Evidence from Chinese Listed Companies

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Abstract. This paper focuses on corporate innovation determinants among listed firms in China, where economic growth and development are largely driven by corporate activities. Despite this, it remains unclear how firms can most effectively develop through innovation. Thus, we investigate the determinants of corporate innovation by examining firm-level characteristics and propose potential solutions to improving innovation. Our unique dataset from multiple sources provides valuable insights for policy-making and investors, highlighting the need for government guidelines to further promote innovative firms in China. This study substantially advances our understanding of corporate innovation in China and provides practical recommendations for policymakers and investors alike.

Keywords: Corporate Innovation; Determinants; Listed Firm; China.

1. Introduction

In recent years, China has emerged as a leading global economy, driven largely by the rapid growth of its corporate sector. As the country continues to transition towards a more innovative and knowledge-based economy, there is increasing recognition of the critical role that corporate innovation plays in promoting sustainable economic growth and development. Despite this recognition, however, there remains a lack of clarity regarding the determinants of corporate innovation and how firms can most effectively develop through innovation.

This paper seeks to address this gap by examining the determinants of corporate innovation among listed firms in China. By analyzing firm-level characteristics, we aim to identify key factors that are associated with higher levels of innovation, and propose potential solutions to improve innovation in the corporate sector. Our study is based on a unique dataset that draws on multiple sources, including financial statements, patent filings, and survey data, providing valuable insights for both policymakers and investors.

Our analysis reveals several important findings regarding the determinants of corporate innovation in China. First, we find that firms that invest more in research and development (R&D) tend to be more innovative, suggesting that increasing R&D spending can be an effective strategy for firms looking to enhance their innovation capabilities. Second, we find that firms that have a more diverse workforce, particularly with respect to gender and educational background, are more likely to be innovative. This suggests that promoting diversity and inclusion in the workplace can be an important strategy for firms seeking to foster innovation.

In addition to these findings, our study also highlights the need for government guidelines to further promote innovative firms in China. While there are currently several policies and initiatives in place to support innovation, our analysis suggests that there is still room for improvement. Specifically, we recommend that policymakers focus on enhancing the regulatory environment for innovation, promoting greater collaboration between academia and industry, and providing more funding and resources for innovative firms.

Our study has several important implications for policymakers and investors alike. For policymakers, our findings highlight the need for a more strategic approach to promoting innovation in the corporate sector. By focusing on key determinants such as R&D spending and workforce diversity, policymakers can help to create a more conducive environment for innovation and promote sustainable economic growth and development.

For investors, our study provides valuable insights into the factors that are associated with higher levels of innovation among listed firms in China. By identifying firms that are investing more in R&D and have a more diverse workforce, investors can make more informed decisions about which firms to invest in and potentially benefit from their innovative capabilities. Our also study substantially advances our understanding of corporate innovation in China and provides practical recommendations for policymakers and investors alike. By identifying key determinants of innovation and highlighting the need for government guidelines to further promote innovative firms, our study has important implications for the future of the Chinese economy and its corporate sector.

The remainder of this paper is organized as follows. Section 2 discusses the relevant papers in the literature. Section 3 introduces the data in this paper. Some proposed solutions are contained in section 4. The last section discusses some policy implications and provides some concluding remarks.

2. Literature Review

Low-end manufacuturing industry to higher-end, more productive, more value-added products, industrial upgrade. (Lin, Lin, Song, & Li., 2011) would like to point out country's property right protection system, government tax and subsidy policies, etc., are obviously also important factors influencing firm incentive for R&D (Yuan & Wen, 2018) think when firms appoint individuals with foreign experience as members of their management teams, their innovation activities tend to be increased. (Yuan & Wen, 2018) have enumerated, first is to adopt measures to gradually expand the scale of the SME Board. Second is to press forward with innovation.

Third is to continue to implement stringent supervision. Consideration for institutional factors is important because they play critical roles in emerging economies (Tian, J.F., 2020).The test results of this paper indicate that there is a negative correlation between environmental uncertainty and corporate innovation. When facing environmental uncertainty, corporations tend to reduce innovation investment in order to avoid future losses. Corporations with higher environmental uncertainty are more cautious about innovation, which is in line with the risk aversion motivation of management and the relevant interpretation of real option theory. We also find that the impact of environmental uncertainty varies among corporations with different characteristics. Compared with corporations with strong risk-taking ability, the negative correlation between environmental uncertainty and corporate innovation is more obvious in corporations with weak risk-taking ability. Finally, we also verify that environmental uncertainty will indirectly affect enterprise innovation by increasing financing constraints (Deng, M., 2022), firms may alleviate external financing constraints by enhancing their reputations, which in turn improves their access to financing for innovation (Cui, X., 2021). With the rapid growth of global ESG investment, regulators, investors, and enterprises have paid more attention to ESG. An increasing number of enterprises have begun to apply ESG practices in important decision making. ESG performance can be used to measure the performance of enterprises in sustainable development (Tang, H., 2022), making a proper wage wedge between the managers and floor workers is beneficial to a firm's innovation capabilities (Miao, 2020). As the pressure from other important stakeholders like shareholders and creditors tested in this study, which appears to be weak at present, continues to grow, more firms will opt for opening more environmental information (Liu, 2009). Also find that the effects of firms'poverty alleviation campaign on firm innovation per-formance are generally stronger for firms with higher internet search volume. Ourresult consist with the viewpoints based on stakeholder theory and resource depend-ence theory, which suggests that firms'poverty alleviation campaign contribute todevelop positive relations with key stakeholders, and these relationships help getaccess to critical resources related to development (Zhou, 2022).

3. Data Description

This paper is based on a comprehensive dataset that includes various sources of information. In particular, we adopt data from the Chinese statistical yearbook from 2011-2018 for three variables: research and development (R&D) expenditure, new product sales revenue, and patent applications. The database covers a total of 4 municipal cities, namely Beijing, Shanghai, Tianjin, and Chongqing, as well as 282 prefecture-level cities, resulting in a sample of 2,882 observations. The information collected includes the number of companies, their size, the time span covered, and their innovation level. In summary, the dataset used in this paper provides a comprehensive overview of the innovation activities of Chinese companies, and the time series graphs presented in this section illustrate the trends in R&D expenditure, new product sales revenue, and patent applications over time.

Figure 1 shows an obvious upward trend in research fund over time for listed companies in China. This trend suggests an increasing emphasis on R&D investment and innovation by Chinese companies over the years.

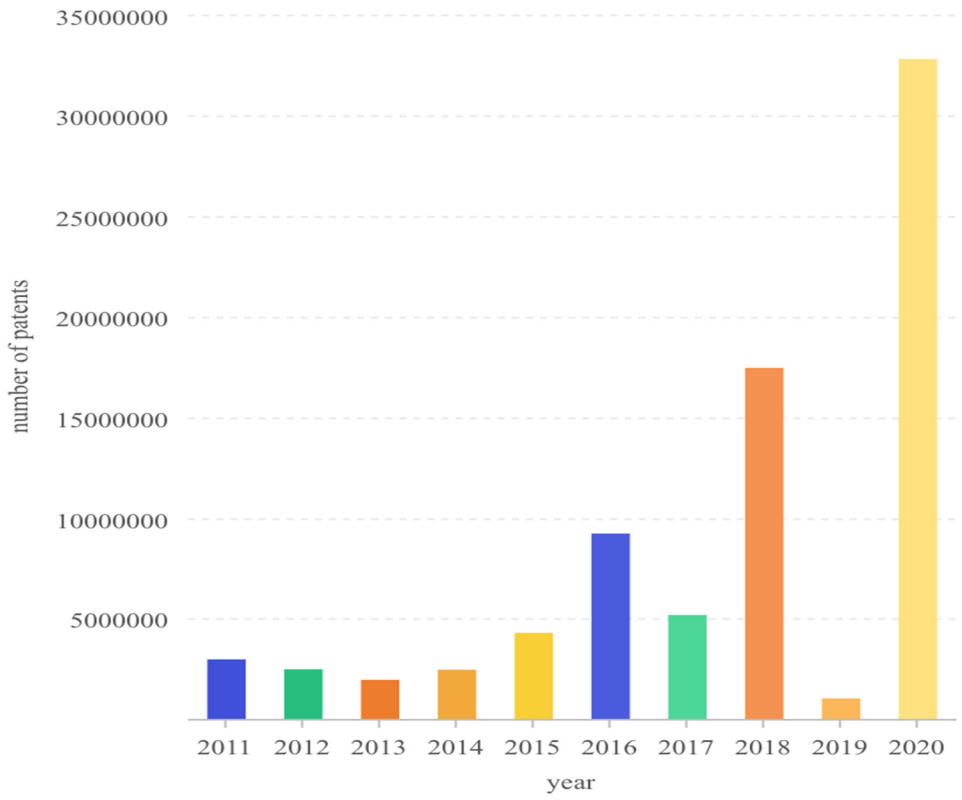

Fig 1. R&D investment and innovation by Chinese companies in 2011-2020

4. Proposed Solutions

To help companies develop faster, we need to propose solutions that can address these problems. Firstly, from the perspective of the enterprises/firms, it is essential that CEOs hire innovative, high-tech, and management-oriented talent. Innovative talent can help improve a company's operational efficiency, while high-tech talent can assist in industrial upgrading. Management-oriented talent can increase a company's revenue and reduce operational costs. To execute this strategy effectively, companies need to adopt a comprehensive talent acquisition plan that ensures that they hire the right people for the right job. This plan should focus on the following:

1. Identify the key competencies required for each position and develop a job description that accurately reflects these competencies;

2. Leverage various recruitment channels, such as job fairs, online job portals, and social media, to reach a wider audience;

3. Conduct thorough interviews that evaluate candidates' abilities, experience, and fit with the company culture;

4. Offer competitive compensation and benefits packages to attract and retain the best talent.

By following these steps, companies can build a strong workforce that can help them innovate and grow. Secondly, governments can also play a significant role in promoting innovation and growth in the business world. One of the most effective ways is to provide tax breaks and increase funding opportunities for high-tech companies. Tax incentives can help lower the cost of doing business, which can encourage companies to invest in research and development, while funding opportunities can provide much-needed capital for startups and small businesses. Additionally, governments can offer various resources to assist companies in developing new products and services, such as grants, technical support, and mentoring programs.

To achieve this, governments need to work closely with industry leaders and experts to identify the specific needs of the business community. This can involve conducting research studies, hosting focus groups, and gathering feedback from entrepreneurs and investors. By understanding the challenges faced by businesses and developing targeted policies and initiatives, governments can help create a more conducive environment for innovation and growth.

5. Conclusion

In conclusion, while innovation in the business world is occurring at an unprecedented rate, there are still challenges that need to be addressed. Companies need to invest in talent acquisition strategies that can help them attract and retain innovative, high-tech, and management-oriented talent. Governments also have a critical role to play in promoting innovation and growth by providing tax incentives, funding opportunities, and other resources. By working together, the business community and governments can create a more vibrant and innovative economy that benefits everyone.

within their organizations. This can be achieved by encouraging collaboration, creativity, and risk-taking, and providing resources for research and development. It is also crucial for businesses to stay up-to-date with emerging technologies and market trends to remain competitive and innovative.

In addition to talent acquisition and fostering a culture of innovation, companies need to prioritize diversity and inclusivity in their workforce. A diverse workforce brings different perspectives and experiences to the table, leading to more innovative ideas and solutions.

Governments can also promote innovation by investing in education and training programs that equip individuals with the skills needed for the jobs of the future. Policies that protect intellectual property rights and facilitate access to funding and resources can also stimulate innovation.

Ultimately, the success of innovation in the business world relies on collaboration and cooperation between companies, governments, and other stakeholders. By working together to overcome challenges and leverage opportunities, we can create a more innovative and prosperous future for all.

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