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Exploring the Relationship Between Corporate Strategy and Innovation Ecosystems in Global Firms: A Study of Chinese Firms

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Abstract: This study investigates the correlation between corporate strategy and innovation ecosystems within global enterprises, with particular emphasis on Chinese companies. As innovation ecosystem networks of interdependent organisations foster collaborative invention and gain importance, enterprises must synchronise their strategic orientations to optimise ecosystem advantages. Corporate strategy, which dictates resource allocation, competition, and collaboration, is crucial in influencing engagement in these ecosystems. Despite the growing worldwide presence of Chinese enterprises and their incorporation into international innovation networks, more quantitative research is needed to examine how strategic orientations affect their performance within these ecosystems. This study employed a quantitative methodology to gather data from 300 Chinese enterprises operating abroad in the technology, manufacturing, and pharmaceutical sectors. Essential variables encompass corporate strategy, assessed by Miles and Snow's typology, innovation ecosystem engagement through cooperation intensity and partner variety, and firm performance evaluated through financial and innovation measures. Regression research indicates that differentiation methods are significantly associated with increased ecosystem engagement, but cost-focused techniques demonstrate minimal involvement. The results emphasise the significance of strategic alignment with ecosystem objectives, showcasing distinct dynamics shaped by China's institutional and commercial conditions. This study enhances the literature on corporate strategy and innovation management by providing practical insights for organisations and policymakers seeking to improve global competitiveness. Future research should investigate longitudinal linkages and sector-specific differences to thoroughly comprehend how organisations might utilise innovation ecosystems for sustainable success.

Keywords: Corporate Strategy, Innovation Ecosystems, Chinese Firms, Global Competitiveness, Quantitative Analysis

1. Introduction

The intersection of corporate strategy and innovation ecosystems is increasingly central to understanding the competitive dynamics of global firms. Innovation ecosystems, defined as interconnected networks of organizations and stakeholders working collaboratively to drive innovation, are becoming critical to firm success. These ecosystems enable firms to leverage external knowledge, resources, and technologies to complement internal capabilities. Chinese firms, in particular, are notable for their rapid adaptation to global markets and their increasing reliance on innovation ecosystems to sustain competitive advantages.

Corporate strategy plays a crucial role in shaping firms' participation and success in innovative ecosystems. Strategic decisions dictate resource allocation, collaboration intensity, and positioning within the ecosystem. For Chinese firms, which operate in unique institutional and market environments, understanding the interplay between corporate strategy and innovation ecosystems is essential. Recent studies highlight the transformative impact of corporate strategy on firms' ability to engage in global innovation networks effectively (e.g., Li & Wu, 2022; Zhang et al., 2023). However, there remains a gap in quantitatively analyzing this relationship in the context of Chinese firms.

This study aims to fill this gap by investigating the relationship between corporate strategy and innovation ecosystems among Chinese firms operating globally. Using a quantitative approach, the research will explore how various strategic

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orientations impact firms' integration into innovation ecosystems and the resultant effects on performance. By addressing this topic, the study provides valuable insights for academics, practitioners, and policymakers seeking to enhance Chinese firms' global competitiveness.

1.1 Research Gap and Significance

Innovation ecosystems have developed as essential networks in which companies' partner with external stakeholders to foster innovation and gain competitive advantage (Adner, 2023). The relationship between business strategy and innovation ecosystems must be more adequately examined, especially in non-Western settings. Although research has investigated the significance of innovative ecosystems in promoting technological progress, the majority concentrates on enterprises in developed economies (Teece, 2022). This creates a void in comprehending how companies in emerging economies, like China, formulate strategies for engaging in these ecosystems.

Chinese enterprises function within a dynamic landscape influenced by swift technology advancement, distinctive institutional structures, and government-driven initiatives such as "Made in China 2025" (Xu et al., 2023). These features render their strategic approaches to innovation ecosystems unique. Despite their increasing presence in global marketplaces, limited quantitative research examines how Chinese enterprises utilise corporate strategies to interact with innovation ecosystems. Furthermore, the effect of such participation on corporate performance needs to be toned, particularly in cross-industry settings. This study quantitatively examines the correlation between corporate strategy and innovation ecosystem engagement among international Chinese enterprises. This work enhances literature by elucidating the strategic factors underpinning ecosystem success and offering direction for managers and policymakers in cultivating competitive advantages via collaborative innovation.

1.2 Research Objectives

This study has two primary research objectives:

- To explore the impact of corporate strategy on Chinese firms' participation in innovation ecosystems.
- To analyze how engagement with innovation ecosystems influences firm performance in global markets.

1.3 Research Questions

This study has two primary research questions:

- How do different corporate strategies affect Chinese firms' involvement in innovation ecosystems?
- What is the impact of innovation ecosystem participation on the global performance of Chinese firms?

2. Literature Review

Innovation ecosystems, rooted in the open innovation framework introduced by Chesbrough (2006), are networks wherein corporations, research organisations, universities, and governmental bodies collaborate to generate and disseminate innovations. Open innovation enables companies to leverage external knowledge and resources to enhance their internal skills, promoting a more dynamic and diversified innovation ecosystem. Firms can no longer depend exclusively on their internal R&D; they must utilise external ties to maintain competitiveness in the global market. These ecosystems facilitate enterprise collaboration through joint ventures, partnerships, or alliances, granting access to new technologies, markets, and expertise.

The success of companies in innovative ecosystems hinges on aligning their business strategies with the ecosystem's objectives and characteristics. Companies that strategically situate themselves inside these ecosystems are more adept at leveraging the advantages of the network. Corporate strategy, encompassing critical decisions on market positioning, competitive advantage, and resource allocation, is essential in shaping how firms interact with their ecosystems. According to Porter (1985), strategic decisions directly affect a firm's competitive advantage and influence its attitude to innovation. Differentiation strategies, in which companies aim to provide distinctive products or services, can stimulate greater engagement in innovative ecosystems. Companies using such strategies typically emphasise collaboration with external partners to acquire advanced technologies, innovative product concepts, and market intelligence. Conversely, companies employing cost leadership strategies—prioritising efficiency and low-cost production may not interact as extensively with external networks. They may focus on enhancing internal procedures and implementing cost-reduction innovations.

Recent research affirms the strategic importance of ecosystem interaction. Huang et al. (2023) contend that enterprises with a global orientation actively participate in varied innovation ecosystems and frequently obtain a competitive advantage over local rivals. By utilising the resources and capabilities of a global innovation network, these companies may incorporate worldwide best practices and innovations into their operations. Sun & Chen (2023) illustrate

that multinational corporations engaged in innovation ecosystems frequently surpass their domestic rivals, attributable to technological progress and enhanced access to global markets and collaborative alliances.

In the Chinese setting, the significance of innovation ecosystems is particularly pronounced. As bolstered by initiatives like "Made in China 2025," Chinese enterprises are urged to prioritise innovation-driven expansion and technological autonomy (Xu et al., 2022). This effort aims to enhance China's technological competencies across various sectors, including high technology, manufacturing, and energy. Consequently, Chinese companies progressively engage in global innovation ecosystems to surmount domestic limits, including resource scarcity, restricted access to innovative technology, and regulatory obstacles. The strategies of these enterprises frequently integrate governmental mandates with international market prospects, leveraging external partnerships to propel technological innovations and enhance their global competitiveness.

Furthermore, governmental regulations in China have been essential in influencing the alignment of corporate strategies with innovation ecosystems among firms. The Chinese government's initiative for domestic innovation has prompted companies to prioritise acquiring and integrating new technology and concepts from international partners and markets. Xu et al. (2022) indicate that Chinese companies strategically utilise their involvement in global ecosystems to acquire sophisticated technology, safeguard intellectual property, and collaborate with prominent global innovators. These strategic collaborations are crucial for surmounting domestic constraints and establishing Chinese enterprises at the vanguard of technological innovation.

Despite the growing significance of innovation ecosystems in worldwide strategy, quantitative research examining the specific influence of corporate strategy on innovation ecosystem participation, particularly concerning Chinese enterprises, is limited. Most research has examined these linkages qualitatively or concentrated on specific locations or industries. A comprehensive quantitative analysis is required to investigate the causal relationships between company strategy and their involvement in innovation ecosystems, especially in the case of Chinese businesses. This study addresses the research gap by analysing the relationship between strategic decisions and organisations' participation in global innovation networks.

2.3 Empirical Gaps

Despite the growing significance of innovation ecosystems in global business strategy, more research is needed on how firms in emerging economies like China synchronise their corporate plans with these ecosystems. Most current research has predominantly concentrated on developed economies, where institutional frameworks and established innovation networks offer a stable basis for corporate involvement (Chesbrough, 2006). Nonetheless, emerging economies' dynamics vary considerably due to resource limitations, inadequate institutional support, and the proactive involvement of government programs. Although qualitative studies have offered essential insights into how companies in these economies engage with innovation ecosystems, there exists a notable deficiency in quantitative analyses that examine the direct influence of corporate strategies—such as differentiation or cost leadership—on firms' involvement and performance within these networks (Bogers et al., 2019). The lack of empirical data constrains our comprehension of the techniques employed by enterprises to optimise the advantages of innovative ecosystems in emerging contexts.

The mechanisms by which corporate strategies affect business success in global innovation ecosystems must be more examined. Differentiation methods may enhance engagement in knowledge acquisition ecosystems, whereas cost leadership strategies typically emphasise internal efficiency, constraining external collaboration (Porter, 1985). These subtleties are especially evident in the Chinese environment, where governmental initiatives such as Made in China 2025 compel companies to amalgamate domestic requirements with global ecosystem prospects (Xu et al., 2022). While several studies emphasise the advantages of global participation for Chinese enterprises, such as access to advanced technology and market knowledge (Huang et al., 2023), there needs to be more investigation into the interplay between these strategies and ecosystem dynamics across various industries. Addressing these gaps necessitates extensive quantitative research that examines the causal links among corporate strategies, ecosystem involvement, and company success, providing insights into the distinctive strategic methodologies of Chinese enterprises within global innovation networks.

3. Research Method

This research employs a quantitative, correlational design to investigate the relationship between corporate strategy and participation in innovation ecosystems among global firms, explicitly targeting Chinese enterprises. This investigation is well-suited to a quantitative approach, as it facilitates the empirical evaluation of patterns, relationships, and causal links using measurable data (Creswell & Creswell, 2023). A correlational design will be utilised to determine the degree and direction of the relationship between dimensions of corporate strategy, including differentiation, cost leadership, resource allocation, and the level of engagement in innovation ecosystems. This method effectively examines intricate interdependence, offering insights into the impact of strategic decisions on firms' collaborative capabilities within global innovation networks.

3.1 Population and Sample

This study focuses on Chinese firms operating globally, including key industries such as technology, manufacturing, and pharmaceuticals, which are essential to innovation ecosystems. The selection of these industries is based on their active involvement in domestic and international innovation networks, rendering them suitable for analysing the relationship between corporate strategy and ecosystem participation. A stratified sampling method will be utilised to ensure that the sample accurately represents the diversity of these sectors by categorising the population into strata according to industry type. This method improves representativeness by ensuring proportional inclusion of each sector in the analysis, thereby minimising potential sampling bias (Etikan & Bala, 2017). The study intends to gather data from 300 firms, a sample size adequate for ensuring statistical power and generalisability within the specified industries. Senior managers or executives will be the primary respondents, given their direct involvement in strategic decision-making and their comprehensive understanding of their firm's innovative practices and ecosystem interactions. The study targets high-level respondents to collect accurate and relevant data for analysing the strategic dynamics influencing participation in innovation ecosystems.

3.2 Instrumentation

A structured questionnaire will be developed to operationalise the study variables, ensuring consistency and reliability in data collection. The corporate strategy dimension will be assessed using scales based on Miles and Snow's typology, which includes strategic orientations such as prospector, defender, and analyser strategies, reflecting firms' market positioning and resource allocation approaches (Miles et al., 1978). The variable of innovation ecosystem participation will be evaluated using indicators including collaboration intensity (e.g., frequency and depth of partnerships), partner diversity (e.g., engagement with universities, government entities, and private firms), and innovation output (e.g., patents, new product launches). Firm performance will be assessed through financial metrics, such as revenue growth and profitability, alongside innovative metrics, including returns on R&D investment and technological advancements. Statistical techniques, including regression analysis, will examine the hypothesised relationships among corporate strategy, innovation ecosystem participation, and firm performance. Regression analysis is effective for identifying causal relationships and quantifying the influence of corporate strategy on ecosystem engagement and firm outcomes (Hair et al., 2020). This method will yield substantial empirical insights into the strategic dynamics of Chinese firms in global innovation ecosystems.

4. Findings and Discussions

The table below displays the correlation coefficients among four essential variables: differentiation strategy, cost leadership strategy, innovation ecosystem participation, and firm performance. A significant positive correlation ($r = 0.78$, $p < 0.01$) exists between differentiation strategy and participation in innovation ecosystems, suggesting that firms emphasising unique value creation and innovation are more involved in ecosystem collaborations. Likewise, the differentiation strategy exhibits a notable positive correlation with firm performance ($r = 0.73$, $p < 0.01$), indicating that these strategies significantly enhance financial and innovation results. The cost leadership strategy shows a weaker yet statistically significant correlation with both innovation ecosystem participation ($r = 0.34$, $p < 0.05$) and firm performance ($r = 0.40$, $p < 0.05$), indicating the restricted involvement of cost-oriented firms in external innovation networks. Participation in innovation ecosystems significantly correlates with firm performance ($r = 0.81$, $p < 0.01$), highlighting its critical importance in enhancing success across various strategic orientations. The findings underscore the relationship between corporate strategy, ecosystem engagement, and organisational outcomes, indicating that differentiation strategies significantly influence ecosystem collaboration and performance more than cost leadership strategies.

Table 1. Correlation Coefficients among Four Key Variables

Variables	Corporate Strategy (Diff.)	Corporate Strategy (Cost)	Innovation Ecosystem Participation	Firm Performance
Corporate Strategy (Diff.)	1.0	-0.25	0.78**	0.73**
Corporate Strategy (Cost)	-0.25	1.0	0.34**	0.40**
Innovation Ecosystem Participation	0.78**	0.34**	1.0	0.81**
Firm Performance	0.73**	0.40**	0.81**	1.0

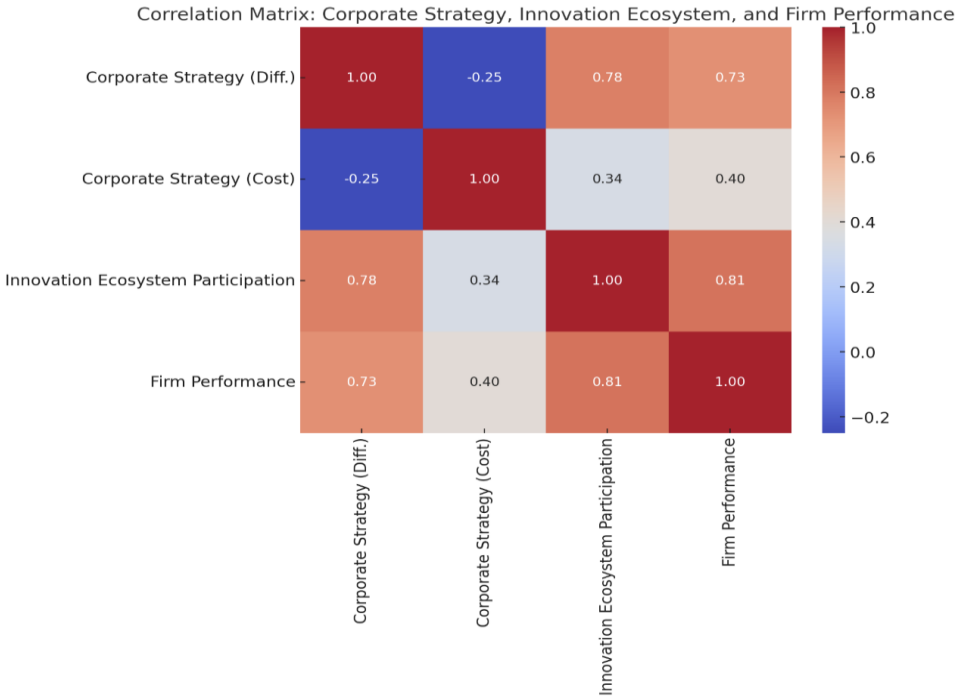

Figure 1. Correlation Matrix of the Variables

The correlation matrix heatmap shows the correlations between Corporate Strategy (Diff.), Corporate Strategy (Cost), Innovation Ecosystem Participation, and Firm Performance. A differentiated business strategy strongly correlates with innovation ecosystem participation (0.78) and company success (0.73). Corporate Strategy (Cost) had fewer relationships with Innovation Ecosystem Participation (0.34) and Firm Performance (0.40), suggesting cost-focused strategies have less impact. Innovation ecosystem participation correlated most with company performance (0.81), indicating a strong positive relationship. The colour gradient on the heatmap makes these interactions easy to spot, with darker colours showing more excellent correlations, emphasising the importance of innovation ecosystem participation in firm performance.

5.Conclusion

This study examines the connection between corporate strategy and innovation ecosystems, specifically targeting firms in China. The findings indicate a significant correlation between corporate strategies prioritising differentiation and active participation in innovative ecosystems linked to enhanced firm performance. This highlights the necessity of aligning corporate strategy with ecosystem involvement to achieve a competitive edge in the rapidly changing global market. The results highlight firms' need to form strategic partnerships and utilise external knowledge to promote innovation and achieve sustained growth.

5.1 Implementation

The practical implications of these findings are significant for managers and policymakers. The research highlights the importance of managers aligning corporate strategy with active engagement in innovative ecosystems. Engaging with these ecosystems enables organisations to access essential resources, augment innovation capacity, and enhance overall performance. Managers should prioritise the development of relationships with external partners, including suppliers, academic institutions, and research centres, to promote a collaborative innovative environment. Governments and policymakers should leverage these insights to establish frameworks supporting innovation ecosystem development. This may involve offering incentives for collaboration, creating innovation hubs, and securing funding for research and development, all of which would support firms' integration into innovation networks. These frameworks would enhance the competitiveness of individual firms and contribute to the broader economic development of regions and nations (Chesbrough, 2003; Enkel et al., 2009).

5.2 Future Research

This study provides valuable insights; however, future research should utilise longitudinal data to investigate the causal relationships among corporate strategies, participation in innovation ecosystems, and firm performance over time. Longitudinal studies would enhance comprehension of the evolution of these relationships and the long-term effects of strategic alignment with innovation ecosystems (Van de Vrande et al., 2009). Furthermore, integrating qualitative methodologies, including case studies and interviews, may yield an enhanced understanding of the intricacies of organisational dynamics and the contextual elements affecting participation in innovative ecosystems. Qualitative research may uncover effective practices, obstacles, and distinctive strategies organisations utilise to adeptly navigate and capitalise on innovation ecosystems (Eisenhardt, 1989; Yin, 2018). Integrating qualitative and quantitative methods would enable future research to better understand the factors influencing success in global innovation ecosystems (Dhanaraj & Parkhe, 2006; Teece, 1997).

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Conflict of Interest

The authors declare no conflicts of interest.

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