Evaluating Cross-Border Entrepreneurial Collaborations and their Effect on Knowledge Transfer and Innovation Diffusion

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Abstract

Cross-border entrepreneurial partnerships are vital for SMEs looking to exploit the world's resources, but high failure rates occur as a result of friction in the management of knowledge. Although the strategic importance of such collaborations is appreciated, there is a gap in the literature about how the distance in culture, institutions, and absorptive capacity affects the speed of knowledge transfer and innovation diffusion among sovereign nations. A sequential explanatory mixed-method approach to research was used in this study. The quantitative data were obtained through a web survey from 250 randomly selected high-growth international technology startups and SMEs involved in cross-border partnerships. Then, qualitative semi-structured interviews were conducted with 20 criterion-purposive samples of executive founders to saturate the themes regarding operational friction. From an empirical standpoint, it becomes evident that there exists asymmetry in the knowledge transfer process, whereby explicit knowledge transfers smoothly, while complex tacit knowledge necessitates strong internal capacity. The statistics reveal the huge difference between the performance categories; successful collaborations scored a relatively high average Absorptive Capacity score of 5.8/7.0, leading to fast innovation diffusion, and making it possible to introduce products into the secondary market within 12 months. Unsuccessful collaborations had a much lower average Absorptive Capacity score of 3.2, struggling with strict intellectual property management, huge cultural distance, and poor communication. This paper clearly shows that internal technical skills and relationship management are indispensable elements of successful cross-border knowledge internalization. The governments and global entrepreneurs should start paying less attention to geographic infrastructure and more attention to absorptive capacity and cross-cultural communication mechanisms. It is necessary to conduct longitudinal research in the future to see how these collaboration dynamics evolve through all phases of the alliance life cycle.

Keywords

Cross-Border Collaboration, Knowledge Transfer, Innovation Diffusion, Absorptive Capacity, Entrepreneurial Networks, International SMEs, Alliance Governance.

1. Introduction

In the present-day globalized world, competition and the fast pace of technological innovations require that new businesses expand their scope of operations beyond their home front to ensure sustained growth and development of innovations. Cross-border entrepreneurship involves the formation of strategic alliances or collaborative partnerships between entrepreneurial firms and their foreign counterparts through the geographic dispersion of resources. Such international business ties help startups suffering from outsider and small-firm disadvantages to combine their competencies and unique organizational structures.

Fundamental to the success of such international collaboration efforts is knowledge transfer, which can be described as the process through which a firm obtains, internalizes, and assimilates explicit and tacit knowledge from an external source. In entrepreneurship, the concept of knowledge transfer acts as a very important

strategic catalyst because it offers ventures with technical knowledge, reduces uncertainties associated with research and development processes, and fast-tracks organizational learning. Cross-border frameworks, on the other hand, make knowledge transfer processes vital in managing the distinct socio-institutional and regulatory environments and transforming localized information into a competitive advantage on a global scale.

As such, knowledge transfer processes are key to understanding the more general concept of innovation diffusion, which refers to the way in which an unconventional idea, technology, or business model diffuses and achieves mass adoption in different market settings. Whereas there is agreement on the strategic importance of international collaborations, gaps exist in the structure as to how cultural distances, institutional hurdles, and different absorptive abilities govern the rate and the nature of diffusion of innovation. It is the objective of this research paper to assess the empirical mechanisms through which international entrepreneurial collaboration fosters two-way knowledge transfer processes.

Research Objectives

In order to understand the above dynamics in a systematic way, this research aims to achieve the following key research goals:

- To examine the critical organizational and institutional obstacles that impact the effectiveness of knowledge transfer in cross-border entrepreneurial cooperation.
- To study the correlation between the absorptive capability of the startup and the speed of cross-national diffusion of innovations.
- To examine how the distance, both cultural and regulatory, impacts the sustainability of international entrepreneurial partnerships.
- To develop an integrated strategy for global entrepreneurs and policymakers to enhance IP exchange and multi-directional learning.

The structure of the paper includes six sections. Section 2 (Literature Review) provides a review of the theoretical background and recent empirical works related to knowledge transfer, absorptive capacity and the role of international partnership. In Section 3 (Research Methodology), describe the data collection methods, and the mixed method design employed (sequential explanatory) including research design, research sampling and instrumentation. Section 4 (Results and Discussion) presents the analysis of the collected data and the empirical evidence including the difference between the successful and unsuccessful cooperation partnerships. In Section 5 (Discussion), this study presents the practical and managerial implications of the research, in addition to the study limitations and recommendations for future research. Finally, section 6 (Conclusion) summarizes the results and contributions.

2. Literature Review

The review of literature on cross-border entrepreneurial cooperation makes use of various theoretical approaches in order to analyze the dynamics of international resource sharing. Key among such theories is the theory of Resource-Based View (RBV) and the derived Knowledge-Based View (KBV), which regard cross-border alliances as mechanisms for the acquisition of uniquely located tacit knowledge (Rodrigues et al., 2022; Ibidunni et al., 2025). Other theories adopted include the Relational View and the Network Theory, which are used to analyze how the network structure allows continuous innovation dynamics across borders (Platonov & Bergman, 2011; Ferrer-Serrano et al., 2022; Nave & Franco, 2024). The idea of Regional Innovation Systems (RIS) also supports this point of view, emphasizing the role of macroeconomic and institutional proximity in the international development of clusters (Hataley & Leuprecht, 2018; Weidenfeld, 2013).

As shown by previous empirical studies, knowledge transfer in entrepreneurship is a complicated process, rather than a smooth procedure, which is greatly dependent upon organizational skills and governance systems outside the organization. According to the literature, cross-border knowledge transfer helps SMEs to operate

in different regulatory environments and innovate (Ibidunni et al., 2025). However, the efficiency of knowledge transfer depends greatly upon intergovernmental systems Jandhyala & Phene, (2015), open innovation ecosystems of various industries Bawa et al., (2024), and the motivations driving global methodological diffusion (Ho & Liu, 2013). In addition, in business and academia, processes including concentration of research partnerships by MNCs in the host country Seo et al., (2020) and incubators for technological innovations at universities prevent the vulnerabilities of early-stage commercialization of technology (Hess & Siegwart, 2013).

For the success of such cross-border partnerships, certain important variables play a role. The two most prominent ones are cultural distance and institutional distance, which work as important moderating variables for cross-border knowledge management, technology transfer, and innovative outputs (Bhimavarapu, 2025; Zhang et al., 2020; Duan et al., 2021). Apart from this, organizations find it difficult to manage knowledge due to the presence of geographical boundaries and spatial distance, which hinder cross-border knowledge diffusion Tang et al., (2022) and Lepik & Krigul, (2014). Recent studies highlight the importance of developing absorptive capacity and using strategic instruments, especially when making cross-border acquisitions and tourism-led cross-border partnerships (Makkonen et al., 2018; Rani et al., 2025; Kuada, 2014).

According to the literature, while cross-border collaboration presents an excellent vehicle through which the process of innovative entrepreneurship diffusion can be achieved, it is subject to several conditions of success, which are dependent on strategic alignment. The organizations need to purposely foster their absorptive capacity as well as strong networking to overcome the resistance from the distance barriers.

3. Research Methodology

Research Design

The sequential design of explanatory mixed methods allows for a detailed investigation of all the intricate aspects of cross-border business collaborations. A mixed-method research approach is especially beneficial when conducting research on international entrepreneurship since it combines the advantages of quantifying and analyzing data from the perspective of context-based analysis. The research will be carried out in two phases, with one preceding the other and being interconnected with each other. The first main quantitative phase of research is meant to discover general patterns, showing how collaborative structure and absorptive capacity affect statistical innovation velocity. This phase will be immediately followed by a qualitative phase, aimed at explaining the process of transferring tacit knowledge.

Data Collection Methods

The data gathering process takes place in two stages in order to lay a strong empirical basis for the research. The first stage implies the conduction of a web-based questionnaire that includes questions about cross-border network density, cultural and institutional distance, absorptive capacity of firms, and multi-directional innovation effects. The structured questionnaire makes use of the Likert scale, which is adopted from existing business literature. This scale implies five and seven points.

The second stage will consist of qualitative semi-structured interviews conducted with a sub-sample of respondents who participated in the survey stage of the research process. It should be noted that interviews take around 45 to 60 minutes each and are conducted through video conferencing. The interview protocol implies an intensive discussion of practical issues, such as managing various regulatory frameworks, protecting intellectual property, and overcoming psychological and communicative barriers associated with cross-cultural cooperation.

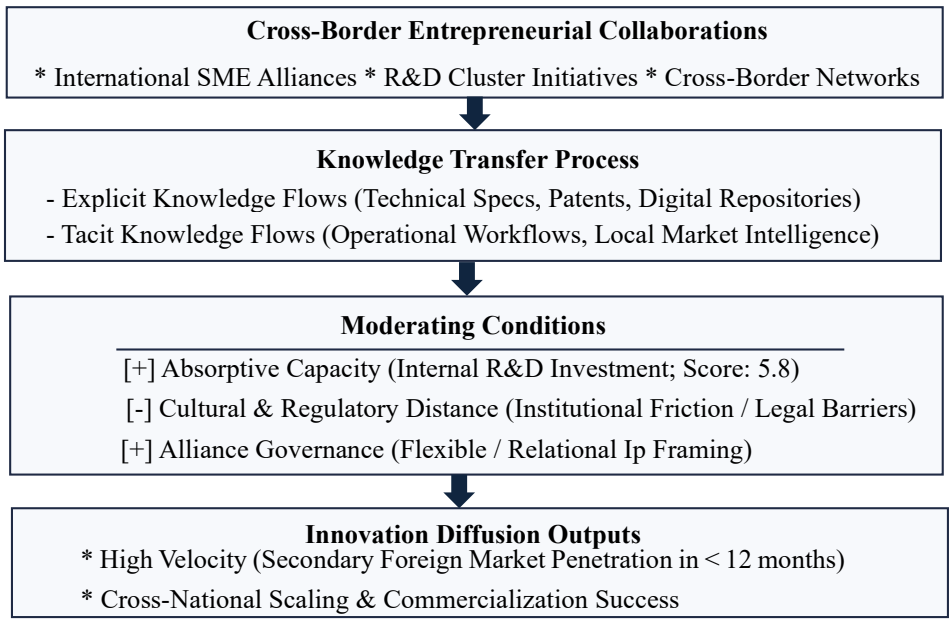

Fig. 1: Conceptual framework of cross-border entrepreneurial collaborations, knowledge transfer, and innovation diffusion

Fig. 1 shows how cross-border entrepreneurial alliances enable knowledge diffusion by transferring both explicit and tacit knowledge with factors such as absorptive capacity, distance between cultures, distances between laws and governance structure of partnerships having a buffering effect on the nature and flow of knowledge.

Sampling Techniques and Sample Size

Sampling technique uses different methodologies per phase in order to maximize the level of statistical validity and insight. For the quantitative phase, a stratified random sampling methodology will be applied to sample from a population of rapidly growing technology-based startups and SMEs that have participated in any form of R&D alliance, joint venture, or cluster activities abroad during the past three years. A sample size of 250 firms with valid responses to participate in the survey will be selected among different geographic corridors, including European cross-border clusters and technology hubs in emerging economies.

For the next qualitative phase, a criterion sampling methodology will be used. Targeted sample size of 20 interviewees will consist of those surveyed firms which showed high or low levels of innovation diffusion speed, thus reaching the level of thematic data saturation. Strict eligibility criteria will include being classified as a regular SME (fewer than 250 employees) and having at least one commercial alliance formally established with the company abroad.

4. Results and Discussion

The findings of this research, based on the sequential mixed-method approach involving 250 international SMEs and 20 semi-structured executive interviews, show specific operational and structural characteristics that differentiate successful from unsuccessful cross-border collaborations.

Analysis of Cross-Border Entrepreneurial Collaborations

Based on quantitative analysis, it is shown that the structure of cross-border alliances has an enormous impact on their innovation output. Companies operating within dense and formalized regional clusters (European Iberian or Finno-Russian cross-border clusters, for example) showed significantly higher

collaborative outputs in comparison to companies that used isolated bilateral collaborations. Still, it did not mean that the closeness of structural ties was enough for the success of collaboration, since it is evident that geographical and regulative distances generate specific background friction that is significantly reduced due to the partners' strategic fit and communication channel formalization.

Evaluation of Knowledge Transfer Outcomes

The effectiveness of knowledge transfer was studied in terms of two parameters: explicit knowledge (such as blueprints, patents, technical code) and tacit knowledge (such as operational process flows, management processes, market knowledge). It becomes evident that knowledge transfer occurs asymmetrically, since explicit knowledge is easily transferred using the digitalized project management systems, but tacit knowledge is very volatile in its nature. Tacit knowledge is absorbed and transformed into useful knowledge according to the absorptive capacity of the receiving firm, namely, the ability to understand the usefulness of the external knowledge, absorb it, and apply it commercially. Ventures with poor absorptive capacity were unable to benefit from knowledge transfers and faced the phenomenon of "knowledge stagnation".

Comparison of Successful and Unsuccessful Collaborations

In order to identify the factors responsible for performance, the sample was divided into “Successful Collaborations” (firms demonstrating innovation diffusion and output success greater than average) and “Unsuccessful Collaborations” (those experiencing termination of the alliance, stagnation, or intellectual property conflict).

The empirical deviations between these two groups are structured and quantified in the table 1:

Table 1: Comparative analysis of successful and unsuccessful cross-border entrepreneurial collaborations: key determinants and strategic implications

Performance Metric / Determinant	**Successful Collaborations**	**Unsuccessful Collaborations**	**Strategic Implication**
Absorptive Capacity Score *(Scale 1–7)*	5.8 (High baseline R&D investment)	3.2 (Low internal R&D capabilities)	Internal technical competence is a prerequisite to decoding and absorbing external foreign knowledge.
Cultural Distance Friction	Low-to-Moderate (Mitigated by active cross-cultural training)	High (Led to persistent communicative and operational misalignments)	Unmitigated cultural divergence severely hinders the transmission of complex tacit knowledge.
IP Governance Mechanism	Flexible / Relational IP Framing (Focus on joint-development clarity)	Rigid / Defensively Restrictive (Led to high legal friction and mistrust)	Overly defensive legal frameworks paralyze open innovation and slow down knowledge sharing.
Innovation Diffusion Velocity	High (New products reached secondary markets in under 12 months)	Stagnant (Collaborative insights rarely crossed local borders)	Trust and open communication channels drastically accelerate time-to-market across sovereign borders.
Primary Communication Vector	Scheduled synchronous reviews combined with cross-border personnel exchanges	Ad-hoc emails and disconnected digital repositories	Physical or deeply integrated digital interactive spaces are essential for tacit knowledge internalization.

It is empirically proven that in cases of failed collaborations between countries, the issue is not related to the technological aspect but rather to the combination of the company's inability to absorb knowledge and the high level of cultural distance.

5. Discussion

These empirical research conclusions present important strategic and structural lessons for entrepreneurs and policymakers in international innovation ecosystems. For entrepreneurs, the study findings show that cross-border partnerships are not just a passive medium for accessing resources but require proactive investments in internal capacity. Entrepreneurs have to invest in creating absorptive capacity within their organizations by investing in R&D and cross-cultural training before participating in foreign partnerships in order to decode external tacit knowledge. For the government, the results indicate that creating cross-border clusters alone will not be enough, but that regional environments conducive to innovation are needed. Government bodies need to move from mere support for geographic infrastructure to creating a balanced intellectual property framework and mobility grants that promote the physical movement of people.

In order to enhance the effectiveness of these collaborations, it is strongly recommended that the entering firms drop their overly defensive and rigid legal barriers of intellectual property in favor of relationship-based flexible structures that promote dialogue. The startups need to create high-level, structured, and synchronous processes of communication and information flow in order to avoid information stalemate.

However, this study is not without its flaws, which open up new areas for further investigation. The sequential mixed methods approach used by this paper makes extensive use of cross-sectional survey research, which captures the dynamics of firms at one moment in time only. In order to better understand how cross-border knowledge management and speed of innovation diffusion change throughout different stages in the life cycle of the alliance; future studies need to employ longitudinal designs. Furthermore, while this study looked at tech SMEs in general, future studies could look at industry-specific differences.

6. Conclusion

The present research provides a comprehensive investigation into the nature of collaboration in cross-border entrepreneurship, as well as the influence of such cooperation on the knowledge transfer and innovation dissemination among international SMEs. Empirical results have shown that international cooperation has great potential as a tool to promote global development; however, its efficiency is greatly contingent upon the firm's capabilities and its external governance. Quantitative research showed an enormous gap between successful and unsuccessful alliances, indicating that structural proximity is not enough to produce innovative results. On the contrary, the speed of innovation diffusion is largely dependent on the internal absorptive capacity of the firm and its ability to reduce cultural and legal friction through relationship-based governance. The importance of such findings is illustrated through distinct statistical findings obtained within 250 companies. Successful cooperation had a high average Absorptive Capacity Score of 5.8 out of 7 and was associated with high innovation diffusion speed, which facilitated successful penetration into secondary foreign markets within 12 months. On the other hand, failures were associated with weak internal R&D abilities, with an average Absorptive Capacity Score of 3.2. Such a lack, together with high unadjusted cultural distance and an informal communication system, caused ongoing misalignment and stagnation of innovations, which could not cross sovereign borders. The presented metrics indicate that internal technical expertise and effective interaction are essential for the deconstruction and internalization of tacit knowledge acquired abroad. This study presents a strong model of cross-border collaboration for global entrepreneurs and politicians; however, there are a number of avenues for further research that can be used. First of all, the cross-sectional approach used in the study requires the implementation of a longitudinal tracking technique to see how the knowledge management capabilities change with the development of an alliance. Also, analysis of differences in cross-border dynamics between different institutional settings, e.g., comparing the biotech industry with the rapidly changing software market, would be valuable for understanding international entrepreneurship.

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