
Guest editorial: Open innovation adoption, challenges and firm performance: insights from emerging markets

1. Introduction

Open innovation (OI) has garnered increasing acceptance across diverse contexts, from providing sanitation solutions in countries such as Ghana and India (IdeaConnection, 2013; Youseph, 2013) to offering complex research and development (R&D) solutions in the developed world (Chesbrough, 2017). Henry Chesbrough introduced the concept of OI, emphasizing the strategic utilization of intentional knowledge flows to accelerate internal innovation and broaden markets for external innovation use (Chesbrough, 2006, p. 1). According to Chesbrough's model, firms can leverage both external and internal sources of ideas, as well as internal and external paths to market, to advance their technological capabilities (Chesbrough, 2006).

In recent years, mounting evidence has underscored the innovation-related and performance benefits of engaging in OI, with the extension of external innovation partners often leading to increased returns (Hewitt-Dundas and Roper, 2017). Notable examples of both success and failure in OI abound in the developed world, ranging from companies like Xerox and Procter & Gamble to instances such as Boeing and LEGO, each offering valuable lessons for practitioners and scholars alike. However, a holistic and eclectic understanding of the factors contributing to the success and failure of OI has not crystallized yet, more so in emerging markets. It is unclear why OI works in some cases and contexts while it fails in others.

Recent research has reported the adoption of OI in emerging markets as well; for instance, Torres de Oliveira *et al.* (2020) in the context of China, Naqshbandi *et al.* (2019) in India, de Melo *et al.* (2020) in Brazil and Ponkratov *et al.* (2020) in Russia, among others. However, it is noteworthy that despite this growing recognition, OI has not received as much attention in emerging markets as it has in developed countries. This is particularly evident in the developing world, where collaborative innovation can provide cost-effective solutions to otherwise expensive problems. Realizing the potential benefits of adopting OI, some companies (e.g. Tata and Biocon in India) have already begun engaging with vendors and customers to co-create (Badani, 2011).

Against this backdrop, this special issue explores the "state of OI" in emerging markets, exploring in depth how adopting OI practices is reshaping firms' innovation strategies, survival mechanisms, solution provision approaches and overall performance in these rapidly evolving markets. The special issue received a great response from the academic and practitioner communities, receiving 67 high-quality submissions, of which 13 eventually made it to publication in the special issue.

2. Special issue articles

The following 13 articles curated in this special issue explore new knowledge and findings focusing on OI.

The first paper, entitled "*The influence of open innovation on the synergistic innovation capability of Chinese manufacturing firms: the mediating role of tacit knowledge acquisition*," delves into China's ascent in the Global Innovation Index Rankings, attributing it to the evolution of its manufacturing firms from mere assemblers to comprehensive system



integrators. It scrutinizes the impact of inbound and outbound OI on innovation capability, employing a synthesized framework melding OI and knowledge-based perspectives. The authors validate their conceptual framework through a questionnaire administered to 139 Chinese manufacturing firms across 6 regions. The results underscore the importance of inbound OI over outbound strategies in enhancing synergistic innovation capability. Notably, skill-based tacit knowledge acquisition emerges as a pivotal mediator between OI and innovation capability, surpassing the role of cognitive tacit knowledge. The study advocates that firms prioritize external tacit knowledge acquisition to stimulate innovation, engender employee enthusiasm and implement ambidextrous OI practices.

The second paper, entitled “*Performance management and open innovation: evidence from Brazilian startups*,” offers insights into the dynamics of performance management practices and their effect on inbound and outbound OI among Brazilian startups. By examining data from 103 startups, the research employs sophisticated methodologies, including partial least squares–structural equation modeling and fuzzy-set qualitative comparative analysis (fsQCA) to unveil significant findings. The results reveal that PM practices play a crucial role in orchestrating both inbound and outbound OI, with inbound OI particularly enhancing organizational effectiveness. The study also highlights the cascading impact of organizational effectiveness on non-financial performance, ultimately leading to improvements in financial performance. This nuanced understanding of the interplay between performance management practices, OI adoption and performance outcomes in an emerging market context offers fresh perspectives and practical implications for startups and practitioners.

In the third paper, entitled “*The influence of open and closed innovation practices on economic performance: empirical evidence from Indian biotechnology industry*,” the authors investigate the impact of closed and OI practices on economic performance, exploring the mediating roles of innovation performance and firm performance. Grounded in knowledge management-based innovation theory, the study employs a two-step methodology: identifying relevant variables and gathering primary data from decision-makers of 200 biotechnological firms, followed by structural equation modeling analysis. The study reveals that OI practices, including interaction with large R&D firms and customers, positively influence performance parameters. Both closed and OI practices demonstrate positive effects on innovation, firm and economic performance, with firm performance acting as a mediator. However, innovation performance does not mediate the relationship. The study contributes experimental insights into innovation approaches in India, offering analysts and firm specialists a nuanced understanding of the impact of different innovation practices on various performance measures.

The fourth paper, entitled “*Identification and analysis of enterprise risks in the open product innovation: the case of Volkswagen Brazil*,” addresses the challenge of identifying and analyzing corporate risks associated with relationships with external agents in the open product innovation process (OPIP). Focusing on Volkswagen do Brasil (VWB) as a case study, the research systematizes the process of identifying and analyzing enterprise risks in OPIP. Data collection involved interviews with management-level professionals engaged in OPIP activities and technical visits to VWB’s industrial plant. The study shows that enterprise risks identified in OPIP primarily impact the manufacturing process and initial sales of new products. The study’s originality lies in proposing a systematic approach to identifying and analyzing corporate risks in open product innovation, bridging the theoretical realms of OI and enterprise risk management (ERM) within the OPIP context.

The fifth paper, titled “*Outbound open innovation effectiveness measurement between big organizations and startups using Fuzzy MCDM*,” identifies the pivotal factors influencing outbound OI between startups and large organizations through the lens of multiple criteria decision-making (MCDM) analysis. Drawing from extant literature, the authors identify and prioritize four key factors using MCDM techniques. A questionnaire is designed to gather insights regarding these factors from startup employees, spanning from designers to founders. The findings, derived through MCDM and ensemble techniques, offer valuable guidance for

large organizations to facilitate outbound OI effectively. Additionally, the research sheds light on the requirements of startups and the support they seek from large organizations. The ranked factors – technology relevance, innovation ecosystem, organization commitment and knowledge sharing – furnish actionable insights for bridging gaps and enhancing collaboration effectiveness, thus fostering innovation.

In the sixth paper, entitled “*Digitalization capability and sustainable performance in emerging markets: mediating roles of in/out-bound open innovation and coopetition strategy*,” the authors delve into the increasing focus on digitalization and interconnected capabilities, which are considered pivotal for sustained competitiveness. The study explores how digitalization capability and coopetition strategy influence firms’ sustainable performance by examining internal and external factors shaping the adoption and success of OI in emerging markets. Using a structural equation model analysis on 509 firm datasets from key cities in China, the authors unveil that a firm’s digitalization capability positively impacts outbound/inbound OI, coopetition strategy and sustainable performance. The study elucidates mediating effects through outbound/inbound OI and coopetition strategy, offering insights into the intricate dynamics of digitalization capability and OI on sustainable performance in emerging markets.

The seventh paper, entitled “*How to drive green innovation of manufacturing SMEs under open innovation networks – the role of innovation platforms’ relational governance*,” addresses the discrepancy between the flourishing theory and practice of OI networks and the stagnant progress of green innovation in manufacturing small and medium-sized enterprises (SMEs). It delves into the mechanisms driving green innovation within manufacturing SMEs under OI networks, focusing on the role of innovation platforms’ relational governance. Through a quantitative study involving 270 manufacturing SMEs in Zhejiang Province in China, the authors collected data via questionnaires, and a structural equation model was employed to test hypotheses. The study indicates that innovation platforms’ relational governance positively influences green innovation in manufacturing SMEs. Moreover, collaborative innovation atmosphere and risk perception mediate in this relationship, playing respective mediating and chain-mediating roles. The study offers empirical insights into the influence mechanism of innovation platforms’ relational governance on green innovation in manufacturing SMEs, offering a fresh perspective on understanding the drivers of green innovation within OI networks and expanding theoretical research on OI management.

The eighth paper, entitled “*The effect of corporate social responsibility on open innovation: the moderating role of firm proactiveness*,” examines the intricate interplay between corporate social responsibility (CSR) and OI in the context of emerging markets, mainly focusing on China. By examining the effects of both business and philanthropic CSR on OI, alongside the moderating role of firm proactiveness, the research offers novel insights into the drivers of OI and its impact on firm performance. The study shows that both forms of CSR positively influence OI, with firm proactiveness playing a differential moderating role. The study also reveals that OI contributes to enhanced innovation and financial performance for firms. This research advances the understanding of how CSR activities can facilitate knowledge acquisition and collaboration in OI initiatives. It emphasizes the importance of social activities in driving OI, thus enriching the scholarly discourse on OI drivers and dynamics.

In the ninth paper, entitled “*Top management team academic competence, university–industry collaboration, proximity and innovation performance: a moderated mediating effect analysis*,” the authors examine genuine academic experience within top management teams (TMTs) and its impact on firm innovation performance. While prior research has mainly focused on TMT members’ educational backgrounds and institutional affiliations, this research delves into the comprehensive evaluation of TMT academic competence and its role in driving innovation. Utilizing data from Chinese listed firms and TMT scholarly publications spanning 2000–2021, the research investigates the influence of TMT academic competence on innovation performance and explores moderated mediating effects. Findings suggest a positive contribution of TMT academic competence to firms’ innovation performance, with university–industry collaboration partially mediating this relationship. Moreover, cognitive

proximity enhances the mediating effect, while distance proximity does not diminish it. This study offers insights for academia, government and firms, shedding light on how TMT characteristics impact innovation and suggesting strategies to enhance innovation performance through adjustments in TMT selection and training.

The tenth paper, entitled "*The influence of knowledge-oriented leadership on business model innovation and open innovation: mediating role of absorptive capacity,*" investigates the pivotal role of knowledge-oriented leadership in fostering business model innovation (BMI) and OI, shedding light on a crucial aspect of organizational dynamics. The study unveils the positive influence of knowledge-oriented leadership on both BMI and OI within the Indian information technology industry. It also identifies absorptive capacity as a mediating factor in these relationships, highlighting its significance in facilitating knowledge absorption and application. The study offers insights for academics and practitioners seeking to enhance organizational innovation capabilities.

The eleventh paper – entitled "*Dismissing uncertainties about open innovation constraints to organizational agility in emerging markets: is knowledge hiding a perfect storm?*" – addresses the intricate relationship between OI and knowledge hiding within the context of organizational agility, particularly in emerging markets. By analyzing the moderating effect of three types of knowledge hiding (playing dumb, evasive hiding and rationalized hiding) on the relationship between OI (both inbound and outbound) and agility, the research sheds light on a critical aspect of inter-organizational collaborative work. Surprisingly, the findings reveal that none of the three types of knowledge hiding negatively affects the relationship between OI and agility. Evasive hiding demonstrates a positive and significant impact, particularly on the relationship between inbound OI and agility. These results challenge conventional wisdom and contribute significantly to the discourse on the contradictory influence of knowledge hiding. The study underscores that, despite knowledge hiding, businesses prioritize the benefits of OI, such as time-to-market improvement and complexity, over protectionism. The study also highlights the importance of evasive hiding in facilitating effective time management and agility within the inbound OI process. Overall, the research offers insights into the complex dynamics between OI, knowledge hiding, and organizational agility, enriching the scholarly discussion on this subject.

The twelfth paper, entitled "*The limitations of open innovation: an examination of innovation orientation, open innovation and performance in North America,*" extends innovation orientation research by examining the limitations of OI in North America. Based on data from 386 companies, the study explores the relationships between innovation orientation, OI and performance. Findings reveal a linear relationship between innovation orientation and performance, a correlation between innovation orientation and OI and a counterintuitive curvilinear relationship between OI and performance, suggesting limitations to its effectiveness. The study offers insights for companies, consultants and scholars, emphasizing the need for a nuanced understanding of OI strategies. Additionally, it provides managerial considerations for fostering innovation orientation and optimizing OI levels to enhance competitiveness and drive firm performance.

In the thirteenth and last paper, entitled "*Open innovation and firm performance in emerging economies: a bibliometric and TCCM analysis review,*" the authors contend that while OI offers a pathway for advancement, the existing scholarly literature lacks systematization. Thus, the research synthesizes current literature, proposes a framework and delineates future research directions to advance the domain. Employing the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) framework, the study evaluates 79 journal publications from Scopus and Web of Science (WoS). Through bibliometric analysis, it identifies rising publication trends and research clusters, while the TCCM analysis provides insights into applied theories, contexts and methodologies. Findings reveal significant clusters and trends in publications, alongside in-depth analysis of theories, contexts and methodologies applied in the domain, particularly focusing on the OI–performance relationship and barriers. The study offers insights by examining OI and firm

performance within the context of emerging economies, employing frame-based bibliometric and content analysis methods to establish foundational understanding.

In conclusion, the 13 studies in this special issue provide insights into the multifaceted dynamics of OI in various contexts, with a particular focus on emerging markets. We hope you will enjoy and appreciate this special issue and its contents. We also hope this special issue catalyzes further research and debate, encouraging scholars and practitioners alike to explore new frontiers in OI theory and practice.

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Acknowledgments

The Guest Editors thank all the contributing authors for their valuable contributions to this special issue. Special thanks are also extended to the dedicated reviewers for generously offering their time and expertise to provide constructive feedback, which has greatly enriched the quality of the manuscripts. The cooperation and invaluable advice from Professor Brandon Randolph-Seng, the Editor-in-Chief of *Management Decision*, are gratefully acknowledged. Additionally, the contributions of the administrative staff are recognized and appreciated for their behind-the-scenes support in facilitating the smooth operation of the publication process.

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Further reading

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