

**23rd Innovation and Product Development Management
Conference (IPDMC)
Abstract Submission Template**

**Please read carefully and adhere strictly to the GUIDELINES
before uploading your submission!**

- Title:

The Relational Complexities of Open Innovation Networks: Mapping the Social Capital within University and Business Research Collaborations

- Is this the work of an early career researcher to be considered for the Best Student Paper Award?

YES

- The Conference Track

Open Innovation

Abstract:

This study aims to understand the relational complexities of open innovation (OI) networks; particularly within the context of a university and business research collaborations. The central notion behind OI activities is to promote the ease of access to obtain new and exploitable knowledge from external sources (Brown and Duguid, 1991; Chesbrough, 2003; Powell 1990; von Hippel, 1988; Ketchen, Ireland and Snow, 2005) as well as leverage their own internal ideas and paths to the market (Chesbrough, 2003). By transcending borders, OI may present opportunities to access new knowledge stocks to aid in the generating new product development which might be difficult to match if operating in isolation (Chesbrough, 2003, 2007; Chesbrough, West and Vanhaverbeke, 2006; Huizingh, 2011; Sisidoya, Johnson, and Gregoire, 2013). As such, the last 15 years has developed a strong trend towards R&D outsourcing and strategic alliances as value chains become more disaggregated due to greater product specialization and complex technologies (Hagedoorn and Duysters, 2002; Gassmann, Enkel and Chesbrough, 2010). This topic has cemented itself in product innovation research as companies (e.g., Microsoft, P&G) are decentralizing research into university-business relationships as a means to increasing knowledge acquisition to drive innovation (Gassman, Enkel, and Chesbrough., 2010) but is still in need of greater topic diversity (Antons, Kleer and Salge, forthcoming). Perhaps the greatest gaps in the OI literature is the assumption that merely establishing a network will generate value and the lack of examinations into how relational elements might function to continually achieve mutually beneficial innovations for both partner.

A network of relationships between and among businesses and universities can only generate *opportunities* to create value, but not the *realization* of value (Hughes, Ireland and Morgan, 2007; Hughes, Morgan, Ireland and Hughes, 2014). Currently, the literature over relies on economic and market based mechanisms, especially as a form of governance (e.g., contracts), which overlooks the social complexities of how opportunities for value creation between (and among) affiliated parties might be initiated, developed effectively, maintained, and enacted to the extent that either party would acquire external knowledge or resources (relevant to innovation) in the absence of immediate returns and guarantees of mutual benefit for both parties (Cross, Parker, Prusak, and Borgatti, 2001). The process of innovation is largely contingent on complex human and social elements that must be aligned and coordinated to access, release and generate knowledge necessary for novel outputs (Rodan and Gullunic, 2004; Nonaka, 1994; Kogut and Zander, 1992) yet the OI literature remains largely divorced from the work on social capital, inter-organizational relationships and network theory.

This study seeks to address this gap by examining the social capital structures that contribute to innovation within a highly-publicized, effective and large scale University–Business relationship that has been built through self-organizing processes over a period of five years and has maintained high levels of mutual benefit. A social network analysis methodology was adopted to map the patterns of social interactions occurring between within both the formal and informal social capital structures (Kadushin, 2012; Cross and Parker, 2004; Hanneman and Riddle, 2005; Burt, 1995; Wasserman and Faust, 1994; Granovetter, 1973). The formal structure was defined by elements of contractual obligations and market-based motives to define task interdependence, knowledge diversity and access. This investigation reveals how informal networks extend beyond the market based incentives. The informal connections (defined by friendship and complex knowledge support linkages) nearly double the network size, and contribute to innovations processes by increasing the diversity of knowledge resources and functional support that is vital for new product development but is often overlooked, thereby offering an extension to the open innovation literature. This study also has implications for managers and policy-makers as it reveals the complex contingencies necessary for developing and maintaining collaboration within this network type.

References

- Antons, D., Kleer, R. and Salge, T. O. (2015), “Mapping the Topic Landscape of *JPIM*, 1984–2013: In Search of Hidden Structures and Development Trajectories,” *Journal of Product Innovation Management* (Forthcoming).
- Brown, J., Duguid, P., (1991), “Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation, *Organization Science*, 2(1): 40-57.
- Burt, R. S. (1995). *Structural Holes: The Social Structure of Competition*, Cambridge, MA: Harvard University Press.

- Chesbrough, H. (2003) *Open Innovation: The new imperative for creating and profiting from technology*, Harvard Business Review Press: Boston, MA.
- Chesbrough, H., Vanhaverbeke, W., West, J., (2006) *Open Innovation: Researching a New Paradigm*, UK: Oxford University Press.
- Chesbrough, H. (2007) *Open Business Models: How to thrive in the new innovation landscape*, Harvard Business Review Press: Boston, MA.
- Cross, R., Parker, A., Prusak, L., Borgatti, S., (2001), "Knowing what we know: Supporting knowledge creation and sharing in social networks," *Organizational Dynamics*, 30: 100-120.
- Cross, R., Parker, A. (2004), *The Hidden Power of Social Networks*, Harvard Business School Press: Boston, MA, USA.
- Gassmann, O., Enkel, E. and Chesbrough, H. (2010), "The future of open innovation," *R&D Management*, 40: 213–221.
- Granovetter, M. (1973), "The strength of weak ties," *American Journal of Sociology*, 78, pp. 1360-1380.
- Hagedoorn, J. and Duysters, G. (2002) "External Sources of Innovative Capabilities: The Preferences for Strategic Alliances or Mergers and Acquisitions," *Journal of Management Studies*, 39: 167–188.
- Hanneman, R., Riddle, M. (2005), *Introduction to Social Network Methods*, University of California: Riverside, CA, USA.
- Hughes, M., Ireland, R., Morgan, R. (2007), "Stimulating dynamic value: Social capital and business incubation as a pathway to competitive success," *Long Range Planning*, 40, pp. 154-177.
- Hughes, M., Morgan, R., Ireland, R., Hughes, P. (2014) "Social capital and learning advantages: A problem of absorptive capacity," *Strategic Entrepreneurship Journal*, (Forthcoming).
- Huizingh, E. K. R. E., (2011) "Open innovation: State of the art and future perspectives," *Technovation*, 31: 2-9.
- Kadushin, C. (2012), *Understanding Social Networks: Theories, concepts, and findings*, Oxford University Press: Oxford, UK.
- Ketchen, D., Ireland, D., Snow, C. (2007), "Strategic entrepreneurship, collaborative innovation, and wealth creation," *Strategic Entrepreneurship Journal*, 1: 371-385.
- Kogut, B., Zander, U. (1992), "Knowledge of the firm, combinative capabilities, and the replication of technology," *Organization Science*, 3(3): 383-396.

Ketchen, D., Ireland, D., Snow, C. (2007), "Strategic entrepreneurship, collaborative innovation, and wealth creation," *Strategic Entrepreneurship Journal*, 1: 371-385.

Nonaka, I. (1994), "A dynamic theory of organizational knowledge creation," *Organization Science*, 5(1): 14-37.

Powell, W. (1990) "Neither market or hierarchy: Network forms of organization," *Research in Organizational Behaviour*, 12: 295-336.

Rodan, S., Gallunic, C., (2004), "More than network structure: How knowledge heterogeneity influences managerial performance and innovativeness," *Strategic Management Journal*, 25: 541-562.

Sisodiya, S. R., Johnson, J. L., Gregoire, Y., (2013) "Inbound open innovation for enhanced performance: Enablers and opportunities," *Industrial Marketing Management*, (Forthcoming).

Von Hippel, E. (1988), *The Sources of Innovation*, Oxford University Press: Oxford, UK.

Wasserman, S., Faust, K. (1994), *Social Network Analysis*, Cambridge University Press: New York, NY.