A Learning Process for NPD in Business Networks

Liu R (Lancaster University Management School)
*Hart S (Durham University Business School)*

ABSTRACT

The point of departure for the research presented in this paper is that although there is much evidence that a firm's product development often requires resources beyond the boundaries of a single firm, the question of how knowledge resources are accessed and learning takes place in product development is much less understood. For the success of product development, practitioners have devoted much interest to building relationships with other firms that contribute to mutual benefits; scholars too have highlighted the importance of 'collaborative learning', 'innovation networks' (e.g. Håkansson et al. 1999; Gnyawali and Madhavan 2001; Pyka 2002; Powell et al. 2005). To improve product development performance, learning in business networks is not optional, but a compulsory action (Jabar et al. 2010; Moenaert et al. 2000; Narver et al. 2004). Nonetheless, how such learning occurs remains under-researched.

Research on network learning includes the work of Beamish and Berdraw (2003) and Nonaka and Toyama (2005), who identify respectively the models of transfer – transformation-harvesting and the SECI process – socialisation, externalisation, combination, and internalisation. Other ideas of importance to emerge in the field of learning include *'protectiveness'*, (Hamel 1991, McEvily et al. 2004; Saunders et al. 2014), whilst the terms *exploitation* and *exploration of learning* (March 1991), explain how firms learn either from the refinement and extension of existing competences or from the experimentation with new alternatives. Yet these studies and others in their wake have not been focused on product development management per se and their insights remain unsynthesised in this context such that we still do not know 'how does learning happen in product development networks?' In order to find out the answer, we commenced a cross-industry multiple-case study to explore the empirical practices.

The organising framework for this research is addressed through examination of learning in three broad stages of the NPD process, namely, the idea management, product development and launch cycles. In order to meet the challenge of finding appropriate samples in network research (Andersson and Dahlqvist 2001; Håkansson and Johanson 2001), a *'snow-balling'* approach was adopted, with the unit of analysis being a completed product development project within a network. In total, three case studies were compiled by 48 in-depth interviews and direct observations in 11 product development business forums, together with archival records and documents.

The findings were derived using NVivo analysis of transcripts as well as documentary analysis and allowed the development of a learning framework in product development networks, comprising syndicated, situated, synergised selected modes of learning which occur at and throughout different stages of the NPD process, as summarised in figure 1. The analysis, emergence of terms, their definitions and implications will be the focus of the full paper.

Figure 1: A Learning Process Framework for NPD in Networks
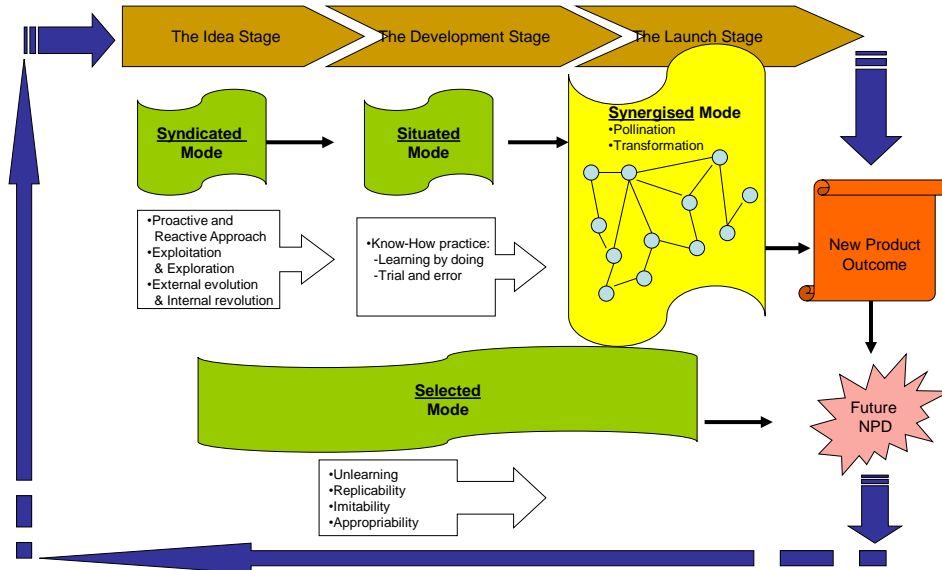
References

- Andersson U. and Dahlqvist J. (2001), "Business-governed product development: knowledge utilization in business relationships", In: *Business Network Learning*, Håkansson H. and Johanson J., Elsevier Science Ltd. 53-68.
- Beamish P., and Berdrow I. (2003), "Learning from IJVs: the unintended outcome", *Long Range Planning,* 36, 285-303.
- Gnyawali D., and Madhavan R. (2001), "Cooperative networks and competitive dynamics: a structural embeddedness perspective", *Academy of Management,* The Academy of Management Review, 26(3), 431-445.
- Håkansson H. and Johanson J. (2001), *Business Network Learning*, Elsevier Science Ltd, UK.
- Håkansson H., Havila V. and Pedersen A. (1999), "Learning in networks", *Industrial Marketing Management*, 28, 443-452.
- Hamel G. (1991), "Competition for competence and inter-partner learning within international strategic alliances", *Strategic Management Journal*, 12, 83-103.
- Jabar J., Soosay C. and Santa R. (2010), "Organisational learning as an antecedent of technology transfer and new product development, a study of manufacturing firms in Malaysia", *Journal of Manufacturing Technology Management*, 22 (1), 25 - 45.
- March J.(1991), "Exploration and exploitation in organizational learning", *Organisational Science*, 2(1), 71-87.
- Moenaert R., Caeldries F., Lievens A. and Wauters E. (2000), "Communication Flows in International Product Innovation Teams", *Journal of Product Innovation Management,* 17, 360-377.
- McEvily S., Eisenharkt K., and Prescott J. (2004), "The global acquisition, leverage, and protection of technological competencies", *Strategic Management Journal*, 25, 713-722.

- Narver John., Slater S. and MacLachlan D. (2004), "Responsive and proactive market orientation and new-product success", *Journal of Product Innovation Management*, 21, 334-347.
- Nonaka I. and Toyama R. (2005), "the theory of the knowledge-creating firm: subjectivity, objectivity and synthesis", *Industrial and Corporate Change*, 14 (3), 419.
- Powell W., White D., Koput K. and Owen-Smith J. (2005), 'Network Dynamics and Field Evolution: the growth of interorganizational collaboration in the life sciences', *The American Journal of Sociology*, 110(4), 1132-1207.
- Pyka A. (2002), "Innovation networks in economics: from the incentive-based to the knowledge-based approaches", *European Journal of Innovation Management*, 5(3), 152-163.
- Saunders M., Gray D. and Goregaokar H. (2014), "SME innovaion and learning: the role of networks and crisis events", *European Journal of Training and Development*, 38 (1/2), 136 - 149.