HOW FIRMS LEARN ABOUT
NEW PRODUCT DEVELOPMENT
IN THEIR BUSINESS NETWORKS

Rebecca Ru-Yuh Liu

A thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy of the University of Strathclyde

Strathclyde Business School

University of Strathclyde

September 2010

ABSTRACT

The thesis contributes to current understanding about new product development (NPD) network learning. It addresses the following research questions: how is business network learning processed in NPD? How do firms engage with their business alliances in the NPD network learning process? How does the network learning mechanism impact on NPD uncertainty reduction and speed-to-market? Two complementary research approaches to explore empirical phenomena and to examine the proposed constructs were envisaged: the qualitative multiple-case study guided and refined theory development; and the survey research assessed the substantive validity of the propositions that were captured and posited from the qualitative research.

Results suggest that companies learn about NPD in their business networks by a process of the transfer of existing knowledge and the cross-transformation of advanced knowledge. The transfer of knowledge echoes the theory of assessing, assimilating and disseminating in the learning literature. The cross-transformation is a term suggested by the study to describe a phenomenon in NPD network learning that a student company (e.g. a supplier) absorbs and integrates knowledge from its teacher company (a customer). Advanced knowledge is thus developed. With advanced knowledge, the student company then transforms into a teacher company to a new student company (a joint venture) in another NPD co-project. The student-teacher transformation is found across the entire NPD network collaboration. Further, empirical evidence indicates that companies engage dialogue, articulation, and experience for the transfer of knowledge. What is added, however, is that transfer is not enough. The *application* of the transfer and the *engagement* of pollination and articulation are found essential to the cross-transformation. Finally, to managers who wish to optimise NPD through network collaboration, the message is that the transfer of knowledge is necessary but insufficient; it is the cross-transformation of knowledge, not the transfer that contributes to uncertainty reduction and speed-to-market in NPD.