

**AN EMPIRICAL EXAMINATION OF THE APPLICABILITY AND
EFFECTIVENESS OF THE OPEN INNOVATION PARADIGM**

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the requirements for the degree of Doctor of Philosophy

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DECLARATION

I, Fang Huang, certify that this work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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ABSTRACT

While there is a growing trend towards openness between organisations in terms of their knowledge flows and contractual relationships, the applicability and effectiveness of the open innovation paradigm has yet to be fully explored. While the advocates of open innovation point to its considerable benefits, there still remains the need to assess whether firms can, in practice, actually capture these asserted benefits.

This overarching research problem, which forms the foundation of this doctoral research project, leads to two research questions. First, is the open innovation strategy applicable to all types of firms? Second, do the benefits of open innovation outweigh its potential costs and the threats to competitive positions of firms?

These two issues correspond to the two gaps found in the extant literature of open innovation that are elaborated in this thesis. To explore these research questions, this research seeks to provide extensive empirical evidence from five main aspects, with particular reference to the inbound stage of the open innovation paradigm. To do this, five interrelated projects are undertaken, each with a unique contribution to informing the research topic.

These closely related investigative components jointly provide consolidated answers to the two research questions. In response to the first research question, an investigation of the generalisability of open innovation is presented, providing a good application of open innovation strategy in the context of process innovation activities and within regional clusters. However, the applicability of this emerging paradigm within Chinese SMEs and firms in service industries are not observed.

The findings also indicate that some open innovation approaches (such as R&D outsourcing) and some external knowledge sources (from agencies such as universities and research institutes) are not shown to facilitate open innovation effectiveness as strongly as other relational arrangements. Furthermore, over-openness towards external sources might generate some adverse effects on firms. Therefore, it is suggested by this research that the decisions regarding whether and how to adopt an open innovation strategy should be contingent on specific situational factors within focal firms.

In response to the second research question, this research also suggests that the benefits of openness are achievable in many situations, but are not likely to always outweigh its potential costs and threats. It is found that certain organisational attributes (namely the suitable level of investment in absorptive capacity and an effective role of R&D) within firms, and the appropriate degree of knowledge protection/disclosure by firms, are two essential prerequisites for firms' ability to seize open innovation benefits.

This doctoral research makes a valuable contribution to the field of open innovation. From the theoretical perspective, it addresses significant gaps in the existing literature, establishes a comprehensive conceptual framework for this paradigm, extends knowledge and theoretical foundations, and identifies important issues which require further examination. From the practical perspective, it will contribute to improving managerial practice by providing useful suggestions regarding whether to adopt the open innovation strategy and how to implement it successfully in the current business context.

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