

**CITY UNIVERSITY OF HONG KONG**

**香港城市大學**

**The Influences of Industry Clustering, Social Capital  
and Knowledge Sharing on Technological Innovation  
Capability of Small Medium Technology Enterprises  
in Hong Kong Science Park**

**產業集群、社會資本和知識共享對在香港科學園內  
中小型科技企業的技術創新能力的影響**

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## **Abstract**

Innovation and technology development are the driving forces of the modern economy. Hong Kong Science Park (HKSP) was established as an industry cluster with the objective of achieving more technology-led economic development in Hong Kong. Small-to-medium enterprises (SMEs) are vital to Hong Kong's economy. According to government statistics, there were roughly 320,000 small businesses operating in Hong Kong as of March 2014. Nearly 47% of private companies are SMEs, accounting for 1.3 million jobs. Therefore, the technological innovation capability of locally based technology SMEs in HKSP should be examined. Although the importance of industry clusters and technological innovation capability is well recognised, a theoretical model connecting industry clusters to local SMEs' technological innovation capability is required.

Drawing on a knowledge-based view in addition to social capital and absorptive capacity theories, this study develops a research model to investigate how industry clusters influence SMEs' technological innovation capability. In particular, it proposes that industry clusters have an indirect influence on that capability through social capital and inter-firm knowledge sharing. Furthermore, it finds that the relationship between knowledge sharing and an SME's technological innovation capability is moderated by the SME's absorptive capacity.

This study examines the relationships between industry clusters and social capital, industry clusters and knowledge sharing and knowledge sharing and SMEs'

technological innovation capability. It also examines the moderating role of absorptive capacity on the relationship between knowledge sharing and SMEs' technological innovation capability. Self-administered surveys were distributed to a sample of SME management teams to collect the data. The measurement model was tested using structural equation modelling and the hypotheses were tested using linear regression.

According to the underlying mechanism identified in this study, industry clusters contribute to both knowledge sharing and social capital and eventually affect SMEs' technological innovation capability. The results indicate that industry clusters affect the relational, structural and cognitive embeddedness of technology SMEs. Industry clusters also contribute positively to both formal and informal knowledge sharing between technology SMEs. Relational embeddedness is positively related to the informal knowledge sharing of the technology SMEs in HKSP, and structural embeddedness is positively related to both formal and informal knowledge sharing. Furthermore, cognitive embeddedness positively contributes to formal knowledge sharing. Finally, the effect of formal knowledge sharing on SMEs' product innovation capability is positively moderated by the SMEs' absorptive capacity. Informal knowledge sharing between SMEs is found to be particularly important to enhancing the SMEs' technological innovation capability and helps them to achieve sustainable competitiveness. The managerial implications of the empirical findings for Hong Kong technology policymakers and SMEs are discussed.