

# Developing process and product innovation through internal and external knowledge sources in manufacturing Malaysian firms: the role of absorptive capacity

Developing:  
role of  
absorptive  
capacity

Received 2 November 2019  
Revised 18 February 2020  
Accepted 23 March 2020

Ramayah T.

*Universiti Sains Malaysia, Penang, Malaysia*

Pedro Soto-Acosta

*University of Murcia, Murcia, Spain, and*

Khoo Kah Kheng and Imran Mahmud

*Universiti Sains Malaysia, Penang, Malaysia*

## Abstract

**Purpose** – Firms' knowledge-processing capabilities have a central role in achieving innovation performance and competitive advantage. Absorptive capacity capabilities and innovation are viewed as essential for enterprise success. Absorptive capacity is deemed as a highly important organizational capability to recognize value and assimilate both external and internal knowledge in order to enhance firm innovation. The aim of this study is to determine if innovation performance can be improved through absorptive capacity (knowledge acquisition, dissemination and utilization), when it is supported by internal (firm experience) and external knowledge sources (R&D cooperation and contracted R&D).

**Design/methodology/approach** – A quantitative methodology based on employing a structured questionnaire was used for data collection. The proposed research model and its associated hypotheses are tested by using Partial Least Squares (PLS) structural equation modelling (SEM) on a data set of 248 manufacturing companies located in the Northern Region of Malaysia.

**Findings** – Results showed that firms' experience is significantly related to absorptive capacity, while for R&D cooperation and contracted R&D findings were mixed. In addition, absorptive capacity was found as a strong predictor of innovation performance.

**Originality/value** – One of the defining features of competition in many industries has been the extremely rapid pace of technological change, marked by a continuous stream of innovations. Manufacturing firms, therefore, face the challenge of nurturing existing knowledge and developing novel knowledge in order to create new business opportunities. This study makes valuable contributions with regard to understanding the behavioural of manufacturing firms towards process and product innovation.

**Keywords** Absorptive capacity, Firm experience, R&D cooperation, Contracted R&D, Product innovation, Process innovation

**Paper type** Research paper

## Introduction

In a world of greater globalization and tougher competition, firms are becoming increasingly knowledge-based in order to compete against with each other to grasp more market share and survive (Bresciani *et al.*, 2018; Vătămañescu *et al.*, 2016; Xin *et al.*, 2014). Firms strive to learn and develop capabilities faster than their rivals (Meroño-Cerdan and Soto-Acosta, 2005; Soto-Acosta and Meroño-Cerdan, 2008, 2009). As the innovation paradigm has changed from being discovery-based to more centrally learning-based (Lundvall and Borrás, 1997; Soto-Acosta *et al.*, 2016a, 2016b), the way in which knowledge processes are managed within and between firms has emerged as a major theme in recent research (Soto-Acosta *et al.*, 2018) (see Figure 1).

