

A discriminant analysis of high and low-innovative firms: the role of IT, human resources, innovation strategy, intellectual capital and environmental dynamism

Simona Popa, Pedro Soto-Acosta and Daniel Palacios-Marqués

Abstract

Purpose – This paper aims to examine the effect of technological, organizational and environmental factors on the level of innovation outcomes in manufacturing small- and medium-sized enterprises (SMEs).

Design/methodology/approach – Drawing on the technology-organization-environment theory this paper conducts a discriminant analysis of firms' innovation level based on a data set of manufacturing SMEs.

Findings – The results show that low- and high-innovative firms can be distinguished in terms of information technology (IT) knowledge and infrastructure, commitment-based human resources (HR) selection practices, exploitative innovation and organizational capital.

Practical implications – The study findings support the idea that innovation is a complex phenomenon explained by multiple factors. As a consequence, firms need to devote extra efforts to develop IT knowledge and infrastructure, commitment-based HR selection practices and organizational capital because these are crucial for obtaining greater innovation outcomes. In addition, the identification of exploitative innovation as a strong discriminant variable highlights that the most effective way to be a highly innovative SME is through incremental innovation, which permits the firm to capitalize as much as possible on previous exploratory efforts.

Originality/value – Although many studies have highlighted that innovation is more challenging for SMEs than for their larger counterparts, the vast majority of studies has been conducted in large companies. This paper extends prior literature by analyzing the discriminant variables that may distinguish between low- and high-innovative manufacturing SMEs.

Keywords IT, Human resources, Innovation strategy, Intellectual capital, Environmental dynamism, Innovation management

Paper type Research paper

Simona Popa is based at the Department of Financial Economics and Accounting, University of Murcia, Murcia, Spain.

Pedro Soto-Acosta is based at the Department of Management and Finance, University of Murcia, Murcia, Spain.

Daniel Palacios-Marqués is based at the Department of Business Administration, Universitat Politècnica de València, Valencia, Spain.

1. Introduction

Today, companies all over the world are facing the challenges derived from the COVID-19 crisis. Innovation and business transformation have been suggested confirmed as key to give response to disruptive changes caused by global phenomenon such as the current pandemic, the economic crisis caused by the pandemic and the ongoing climate crisis (Brem *et al.*, 2021; Soto-Acosta, 2020). Extensive research indicates that the innovative capacity of firms is crucial for current and future competitiveness, especially in uncertain environments (Martín-de Castro *et al.*, 2013; Meseguer-Martinez, *et al.*, 2021; Soto-Acosta *et al.*, 2016a). At the same time, it has been largely acknowledged that innovation is not only critical for obtaining sustainable competitive advantages but also for companies' survival, in particular small- and medium-sized enterprises (SMEs) (Akbari *et al.*, 2020).

Received 3 April 2021
Revised 6 July 2021
Accepted 8 August 2021