



Ten Years of SME E-Commerce Performance Factors and Metrics, 2011-2021

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ABSTRACT

Small and medium enterprises (SMEs) generate 90% of employment and contribute more than 50% to the world product, where e-commerce (EC) is fundamental to their development. In this study, a systematic review of literature from indexed journals in Scopus and Web of Science is conducted, 73 primary studies are identified to answer the inquiry: What affects EC performance and how is it measured? Twenty-eight definitions for EC, 70 ways of understanding performance in three perspectives (financial, customer-market, and process), 51 metrics to measure them, and 74 factors that affect these were identified. However, there is a lack of studies on performance factors from its process as well as the metrics that contemplate other perspectives, such as technological innovation, social responsibility, and value co-creation. Additionally, studies on factors are oriented to the result but not to the process that generates said result, which means there is a gap to be studied.

KEYWORDS

e-Commerce, Performance, SME, Small and Medium Enterprises, Metrics, Factors

INTRODUCTION

Small and Medium Enterprises (SMEs) generate around 90% of employment worldwide (Ayyagari et al., 2017) and contribute more than 50% to the world gross domestic product. However, due to government changes and global financial and sanitary crises, SMEs need to be more competitive. Technologies in information and communication (TIC) provide a path for this (Mauricio, 2001), which additionally with good management, can make SMEs resilient (Sullivan-Taylor & Branicki, 2011), or better yet, antifragile. In other words, to be able to benefit from crises by reacting quickly to the volatility and the uncertainty in which they operate (Taleb, 2012). In that path, commercial activities through TIC, known as e-commerce (EC) (Chaffey & Ellis-Chadwick, 2016) are necessary.

EC is vital for SMEs with significant transaction volumes, hitting \$4.2 billion in 2020 and \$4.9 billion in 2021 (eMarketer, 2021). Recognizing EC's profitability (PEC) is key, as studies suggest it

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stems from financial gains (Ghandour, 2015), reaching new markets, cost-cutting (Mbatha, 2013), and enhancing customer satisfaction and growth (Di Fatta et al., 2018). However, these views on PEC are varied and incomplete. Accurate PEC measurement, incorporating factors like cost management (Chong et al., 2011), sales growth (Pett & Wolff, 2011), and customer contentment (Li et al., 2015), is essential. Moreover, PEC is shaped by factors such as the shopping experience (Svatosova, 2020) and claims management (Izogo & Jayawardhena, 2018), highlighting the need for a comprehensive factor inventory to guide PEC enhancement strategies.

There are various studies on review of literature about EC; for example: the study of Lim, Jin and Srai (2018) that reviews last mile logistic models in the context of supply chain and EC, and the study of Fang and Fang (2022) that analyzes keyword sets of articles to understand the trends of EC publications in China. However, PEC studies have only been identified in journals indexed in Scopus and Web of Science (WoS). Hua (2016), who reviews 155 articles in hospitality and tourism during the 2010-2015 period from a benefit approach regarding EC efficiency, finds that EC is influenced by the environment of the market and organization, and the dynamic and interactive relationship between them; thereby, proposing a framework for a better understanding but not showing the factors that influence profitability nor the metrics to measure these factors. Moreover, there is a great quantity of factors that affect PEC and a variety of metrics to measure them, for which it is necessary to make a systematic review of literature to answer the question, which is this study's objective: How is PEC measured and which factors affect it?

The main contributions of this article are the following:

- To provide an overall vision of EC profitability in SMEs, specifically in aspects such as concept, factors that affect it, and metrics to measure these factors.
- To provide a definition for EC and its profitability that integrates the previous concepts and is useful to new technological contexts.
- To provide readers with a wide array of bibliographical references that can be used to understand and research EC profitability in SMEs in more detail.

This article is organized into five sections. Section 2 outlines the research methodology used to develop the state of the art. Section 3 presents the statistics and the answers to the research questions. The discussion is presented in Section 4. Finally, conclusions and challenges are discussed in Section 5.

METHODOLOGY

The methodology to make a systematic review of literature (SRL) is based on three very common phases in SRLs about factors; for example: in productivity, Castañeda and Mauricio (2018); in female entrepreneurship, Cabrera and Mauricio (2017); and in startup success, Santisteban and Mauricio (2017). The methodology is divided into: Planning, where the research questions and the protocol for article selection are proposed; Development, where the protocol is applied; and Results, where the results (Section 2.3) are exposed, and the research question is answered (Section 3).

Planning

To answer the research question, the following questions are posed:

Q1: How is EC conceptualized in the environment of SMEs?

Q2: What is PEC in SMEs?

Q3: Which metrics are used to measure PEC in SMEs?

Q4: Which factors affect PEC in SMEs?

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