

# Assessing the Factors Underlying the Adoption of E-Commerce Among B2B SMEs: A Two-Country Study

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## ABSTRACT

This research examines the key factors of e-commerce adoption by South African and Nigerian B2B SMEs using a multi-perspective model that combines elements in the technological, organisational, and environmental contexts of the firms. Survey data for the research model were randomly collected; 700 were B2B SMEs in South Africa and Nigeria. A partial least squares structural equation model technique using the SmartPLS was applied to validate the measurement model and to assess the theorized relations. Results of the analysis showed that while some factors robustly predict the adoption of e-commerce by Nigerian and South African SMEs, other factors exclusively influenced either Nigerian B2B firms' adoption of e-commerce or South African B2B firms adoption of e-commerce. The findings highlight the importance of context-specific understanding of the drivers of e-commerce adoption among B2B firms in emerging African economies. It also outlines practical implications for promoting the adoption of e-commerce among B2B firms.

## KEYWORDS

E-Commerce Adoption, Nigeria, South Africa, Technology – Organisation – Environment Model

## INTRODUCTION

Electronic means of advertising, communicating, buying, selling, and making payments are increasingly becoming the business norm. This growth is evident in the year-on-year increase in firms migrating to electronic commerce platforms for business operations. In 2019, e-commerce retail sales grew by 23.3% and were expected to represent 13.7% of global retail sales in 2024 (Stir & Zait, 2019; Hwangbo et al., 2020). The rapid implementation of e-commerce platforms has led businesses to streamline their operations and improve their sales (Raimi & Uzodinma, 2020). Indeed, a study by Alsaad et al. (2018) reports that enterprises that have adopted Business-to-Business (B2B) e-commerce in their business operations have seen an increase in sales compared to their counterparts that have not.

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So, it is abundantly evident that both small and large businesses must employ e-commerce to survive rather than as a choice (Liu et al., 2021). Previous research demonstrates that B2B SMEs cannot become competitive and maintain profitability without adopting innovation at the appropriate market levels (Alsaad et al., 2019; Chiniah et al., 2019; Huang & Chang, 2019; Haryanti & Subriadi, 2020). However, research has revealed that B2B SME owners tend to be overly cautious regarding the application and implementation of innovation (Alsaad et al., 2019). Liu et al. (2021) pointed out that SMEs, which frequently lack the means to use traditional forms of trade, can benefit from the efficient adoption and application of e-commerce methods.

To overcome the inertia hindering the adoption of e-commerce among B2B SMEs, it is imperative to conduct research in this area. Consequently, e-commerce adoption has become an attractive area of research among scholars (Susanty et al., 2020; Ahluwalia & Merhi, 2020; Orji et al., 2022; Wirdiyanti et al., 2022; Zhang et al., 2022). Despite the growing interest, it has been acknowledged that studies on e-commerce adoption among SMEs are scattered across different disciplines. Thus, further research is needed to examine the behavior of SMEs towards adopting e-commerce (Barkatullah, 2018; Oliveira et al., 2019; Chiniah et al., 2019; Huang & Chang, 2019; Haryanti & Subriadi, 2020). Therefore, the present study identifies several critical gaps in the literature that it aims to address.

First, research on SMEs must advance through theoretical development and empirical analysis. Advancing consensus on theoretical foundations of inquiry would contribute to emerging widely accepted concepts currently limited in the literature (Berente et al., 2019; Chiniah et al., 2019; Lai & Hwang, 2021). Such research is crucial as it deepens the understanding of e-commerce adoption. The dominant framework employed in the literature is the Technology-Organization-Environment (TOE) framework proposed by Tornakzky and Fleischer (1990). However, this framework has several limitations, including generic constructs instead of contextual drivers (Alsaad et al., 2019; Usman et al., 2019; Haryanti & Subriadi, 2020; Ugwuanyi et al., 2020; Azam et al., 2021). Therefore, scholars often adapt the constructs according to the specific study context, incorporating other theories to enhance rigor (Alsaad et al., 2019; Sipahutar et al., 2020; Haryanti & Subriadi, 2020; Mullins & Cronan, 2021; Ayawei, 2022). Moreover, some constructs exhibit inconsistent findings across different studies, indicating the potential existence of other factors.

Considering the inadequacy of the TOE model alone in providing a comprehensive understanding of SMEs' e-commerce adoption behavior (Alsaad et al., 2018; Alene, 2020), researchers have increasingly called for a more holistic approach that combines multiple theoretical perspectives to comprehend innovation adoption decisions (Mohtaramzadeh et al., 2018; Hussein et al., 2019; Ocloo, 2020). In response to this call, the present research integrates three theoretical frameworks - the TOE framework, diffusion of innovation (DOI) theory, and institutional theory - to develop a holistic conceptual model that enhances the understanding of B2B e-commerce adoption among South African and Nigerian SMEs. By integrating these frameworks, the study aims to provide improved theoretical lenses for understanding e-commerce adoption behavior, encompassing a more comprehensive set of factors relevant to SMEs' e-commerce adoption behavior compared to the original constructs of the traditional TOE framework (Abed, 2020; Ocloo et al., 2020).

Second, the literature review reveals a dearth of research on innovation adoption, specifically at the B2B SME level. Most studies on innovation adoption at the SME level are based on B2C firms, and findings from B2C firms cannot be generalized to B2B firms due to notable differences (Zain et al., 2020; Islam et al., 2021; Thuy, 2022; Ju & Tang, 2022). Consequently, there is a need for studies that specifically focus on understanding e-commerce adoption behavior in B2B firms. This research aims to address this gap by explicitly examining the adoption of e-commerce among B2B SMEs in Nigeria and South Africa. The present study aims to develop and evaluate a multi-perspective framework that identifies determinants influencing e-commerce adoption among B2B SMEs in Nigeria and South Africa.

Firstly, from a theoretical standpoint, this study proposes a multi-perspective framework encompassing various aspects relevant to B2B SMEs' inclination to adopt e-commerce. This

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