

Technology Transformation, Innovation, and Digital Economy Development in Developing Countries

A Systematic Literature Review

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Abstract: The COVID-19 pandemic is a gateway for businesses to develop technology and embrace digitalization to remain competitive. Various results stated the important role of innovation and technology transformation as potent weapons for survival in this evolving landscape. This research analyzes the role of technology and innovation, especially in developing countries, with few articles researching this field. A systematic literature review that examined 84 articles from reputable international journals was used, with a particular emphasis on developing countries. This research aimed to conduct a comprehensive analysis of existing literature by using the keywords “technology”, “innovation”, and “digital economy” to identify gaps and generate fresh insights. The articles were collected from ProQuest, Google Scholar, and Scopus search engines and imported into Mendeley software for analysis using VOSviewer. The visualization results showed that SMEs were the most frequently mentioned keyword with 41 occurrences.. This research contributed by providing opportunities in the form of new paths and variables rarely used for further analysis. There were also implications for organizational management, both in profit and non-profit organizations, to enhance technological capabilities, thereby improving business efficiency and sustainability.

Keywords: Digital Economy, Innovation, Technology, VOSviewer

Introduction

The COVID-19 pandemic is having negative impacts across various sectors, including society, the economy, education, healthcare, and the way of life of the global community ([Akkad & Mouselli, 2023](#); [Al-Manna'ei et al., 2023](#); [Bouzakhem et al., 2023](#); [Carlos et al., 2022](#); [Uleanya,](#)

[2023](#); [Grigorescu et al., 2023](#); [Nan & Park, 2022](#)). Several research papers have reported technology implementation in business development as a solution to environmental uncertainty and intense competition in profit-oriented organizations, government, and the education sector ([Almatrodi & Skoumpopoulou, 2023](#); [Amoah et al., 2023](#); [Chemma, 2021](#); [Shao et al., 2022](#); [Ssemugenyi & Nuru Seje, 2021](#)). This implementation is also a primary strategy for many companies when facing pandemic, serving as a tool to formulate strategies for navigating turbulence and fulfilling consumer preferences ([Alawamleh et al., 2023](#); [Almunawar & Anshari, 2022](#); [Lontchi et al., 2023](#); [Pasciaroni et al., 2022](#); [Rodchenko et al., 2021](#)). Furthermore, it expedites communication with stakeholders, streamlines asset management, reduces costs, and increases revenue ([Othman et al., 2023](#); [Pierre et al., 2022](#); [Polas et al., 2022](#)). From an employee perspective, digital implementation in Small and Medium Enterprises (SMEs) increases motivation when the technology is beneficial and user-friendly, resulting in improved performance ([Uzkurt et al., 2023](#)). Therefore, a company strives to respond and adapt to changes in business plans to stay in line with the evolving times and goals ([Faasolo & Sumarliah, 2022](#)). The technology implementation will facilitate organizations to adopt strategies, including innovation to enhance productivity and meet market demands ([Pea-Assounga & Yao, 2021](#)).

The innovation process also serves as a driver for the advancement of manufacturing and construction companies toward a digital economy, capable of reducing disparities as well as enhancing productivity and international competitiveness ([Guang-lin & Tao, 2022](#); [Shkabatur et al., 2022](#); [Stojanovska-Georgievska et al., 2022](#)). The concept is a fundamental force that facilitates the production transformation processes and economic systems within a country ([Carvache-Franco et al., 2022](#); [Casadella & Tah, 2021](#); [Mahmutaj et al., 2021](#)). In addition, innovation plays a crucial role during and after the COVID-19 pandemic, because the infection poses challenges to creating new business models and creative ideas in line with market needs and customer expectations ([Bouzakhem et al., 2023](#); [Nguyen et al., 2022](#); [Valdez-Juárez et al., 2022](#)). Open innovation becomes increasingly relevant in disseminating information to address digital disparities in a region. Even though traditional businesses rely on internal resources, this concept leans on openness to welcome ideas from external experts ([Kurmanov et al., 2022](#); [Osorno-Hinojosa et al., 2022](#)), enhancing company performance ([Valdez-Juárez et al., 2022](#)).

Therefore, this research identifies gaps and opportunities for future analyses related to technology implementation, innovation, and the digital economy in developing countries to answer the following questions:

1. How can research on technology, innovation, and digital economy be clustered?
2. What are the most published research trends?