




Has generative AI become of age: Assessing its impact on the productivity of SMEs in South Africa

 Meshel Muzuva^{(a)*}  Helper Zhou^(b)  Robert Walter Dumisani Zondo^(c)



^(a)Academic Programme Leader, School of Business Excellence, MANCOSA, Durban 4001, South Africa

^(b)Honorary Research Fellow, School of Accounting, Economics and Finance, University of KwaZulu Natal, South Africa

^(c)Professor, HOD, Department of Entrepreneurial Studies and Management, Durban University of Technology, South Africa

ARTICLE INFO

Article history:

Received 17 July 2024

Received in rev. form 22 Aug 2024

Accepted 21 September 2024

Keywords:

Generative Artificial Intelligence;
Operational Efficiency; SME
Productivity; Technological Adoption;
Qualitative Methodology

JEL Classification:
M15

ABSTRACT

Small and Medium Enterprises (SMEs) in South Africa previously faced challenges due to limited resources, restricted access to technology, and the need to constantly adapt to a dynamic business environment. The introduction of Generative Artificial Intelligence (AI) emerged as a potential solution to these issues, promising to enhance operational efficiency and strategic decision-making. As a representative of developing economies, South Africa experienced a growing interest in AI technologies. This study was conducted to explore the impact of generative AI on SME productivity in South Africa, an area which had been underexplored. Employing a qualitative methodology, the study evaluated the current state and implications of generative AI in South African SMEs. It involved in-depth interviews to gather perceptions, experiences, challenges, and benefits from SME owners and managers regarding the adoption of generative AI technologies. The findings analysed via R Statistical Software revealed significant insights into the specific areas where generative AI substantially impacted SME productivity. It also identified the challenges and opportunities associated with the adoption of generative AI by SMEs, as well as the potential long-term implications. Key findings included notable improvements in data-driven decision-making, operational efficiencies, and market expansion strategies. However, the study also highlighted barriers such as the lack of technical expertise, initial setup costs, and concerns over data security. Overall, the impact of generative AI on SMEs in South Africa was found to be predominantly positive, paving the way for further technological advancements and adoption in the sector.

© 2024 by the authors. Licensee SSBFNET, Istanbul, Turkey. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

Introduction

Artificial Intelligence (AI) has gained significant attention in the past decade, driven by advancements in computer processing power, cloud computing, and especially deep learning (Zhou & Gumbo 2021). Chatbots, advanced demand predictions, and self-driving vehicles are just a few examples of the emerging technologies that are becoming more prevalent. As noted by Oclarino (2021), AI has the potential to boost organisational efficiency by up to 40% and is becoming a requirement for global competitiveness (Schoeman & Seymour, 2022). However, despite these promising prospects, Small and Medium Enterprises (SMEs) face persistent challenges such as limited resources, lack of access to advanced technologies, difficulties in adapting to a rapidly changing business landscape, and skills gaps that impede AI adoption (Schoeman & Seymour, 2022). These issues hamper the productivity and competitiveness of SMEs in the country.

Recently, generative AI technologies have emerged as potentially transformative tools that could address these longstanding problems for SMEs. According to Soni (2023), generative AI refers to machine learning models that can generate new content and insights without explicit programming. Its capabilities include language translation, text and image generation, predictive analytics, and customized recommendations. The strategic implementation of generative AI is significantly influencing how SMEs customise

* Corresponding author. ORCID ID: 0009-0005-4284-5727

© 2024 by the authors. Hosting by SSBFNET. Peer review under responsibility of Center for Strategic Studies in Business and Finance.

<https://doi.org/10.20525/ijrbs.v13i7.3576>