

ORIGINAL RESEARCH**Prospects and Challenges of Lean Manufacturing Deployment within Manufacturing SMEs in Nigeria: A Literature Review**Mohammed Inuwa^{1*}, Aisha Usman²

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Abstract

Small and medium enterprises (SMEs) played a vital role in manufacturing goods for consumer and industrial purposes, making them instrumental in business growth and economic development. However, issues of poor quality and substandard products prevail due to limited technical knowledge that hindered them from competing locally and globally in Nigeria—arising from the lack of lean manufacturing deployment and implementation. Therefore, the study aims to provide an insight into the prospect and challenges of manufacturing SMEs in Nigeria as it relates to the deployment of lean manufacturing tools and techniques. The study would aid manufacturing SMEs in better comprehending their potentials and problems, hence, deploying lean manufacturing initiatives successfully. The study applied a literature review approach through past empirical and conceptual studies from reputable journals and reports. Based on the available literature, the study finds that though manufacturing SMEs in Nigeria are faced with numerous issues, e.g., poor leadership, lack of qualified personnel, and inadequate funds, they have shown higher prospects of deploying lean manufacturing successfully. The study concludes that manufacturing SMEs should bank on potentials like flexible organizational culture and structure, easy access to customers and suppliers, and flexible manufacturing system to deploy lean manufacturing, which will further aid in waste elimination, value addition, customer satisfaction, and enhanced performance. The study serves as the foundation for further empirical research on issues related to lean manufacturing deployment within SMEs, thereby proffering solutions to the quality challenges they are facing.

Keywords: Lean manufacturing; small and medium enterprises; prospects; and challenges

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1. Introduction

Lean manufacturing is often used interchangeably with Lean management, Lean production, or Lean system, defined by Shah & Ward (2007) as a socio-technical system that removes waste by concurrently lessening or minimizing customer, supplier, and internal variability". It has been proven that Lean manufacturing is an effective technique and a bedrock in the actualization of operational superiority and excellence in manufacturing as it aids firms in removing all forms of wastages in human effort, inventory, time to market, and manufacturing space (Shah & Ward, 2007; Womack & Jones, 1997; Womack & Jones, 2003). The successful implementation of Lean manufacturing by its originators, the Toyota Motors of Japan, brought about an increased interest in the area (Lean manufacturing) in recent years by both Scholars and business

practitioners on the possibility of implementing Lean not only in large enterprises but also in manufacturing SMEs successfully, e.g., (Al-Najem, Dhakal, Labib, & Bennett, 2013; Belhadi, Bin, Sha, Touriki, & Fezazi, 2018; Moya, Galvez, Muller, Camargo, & Moya, 2019).

Nevertheless, despite numerous research conducted in the past, Small and medium-sized enterprises continue to face obstacles in changing their organizations into Lean organizations (Maware, Okwu, & Adetunji, 2021; Ogah, Ogbechie, & Oyetunde, 2020). This results from poor comprehension of aspects of Lean readiness that require proper scrutiny by most change agents before Lean deployment due to non-holistic examination and appraisal of Lean readiness factors and organizational willingness to change to Lean before implementation. Further, Lean applications can be simple for SMEs in. SMEs