

Determinants of technological progress of SMEs in the era of economic globalization: A systemic review

**E.M.S. Ekanayake, J.M.S.B. Jayasundara, G.A.K.N.J. Abeyrathne,
S.K.N.Gamage, P.S.K. Rajapakshe and R.P.I.R. Prasanna**

*Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka, Mihintale
Corresponding author: prasannarjt@gmail.com*

Abstract

Small and Medium Enterprises (SMEs) are recognized as the engine of sustainable economic development of all the nations. In the current globalized world, the business entities are facing three competitive challenges - global challenges, technological challenges, and sustainability challenges. Due to the less capability of SMEs to facing the competitive challenges, a large number of SMEs have been closed-down within a shorter period of its commencement. Thus, this study aimed to explore the existing knowledge on technological challenges facing the SMEs and identify how the technological progress in the SMEs correlates with their survival and succeeding improvements, through a systemic review of the research materials published by the reputed publishers. This study identified six driving forces influencing technological progress including (1) innovations,(2) link with (MNCs) and (TNCs), (3) information technology, (4) sharing and networking, (5) social capital and (6) adaptation to productivity-enhancing technologies. The review also identified two approaches in technological innovations in SMEs - technology exploitation and technology exploration. The concept of "Kaizen" could be an approach in both technology exploitation and technology exploration in the technology upgrade process. The clustering method, social capital approach and linking with large firm's value chains could be identified as the other approaches. TNCs and MNCs generate technological externalities to the SMEs and enabling them for speed adjustment towards changing market conditions and undertake innovative approaches in the production and marketing process. The adaptation of ICT as well as green technology by SMEs reduce the operational cost, improve the service to customers, improve market intelligence, increase response speed between producer and customer as well as producer and input supplier and enhance the relationship with trading partners. Additionally, authors revealed a positive relationship between product innovation strategies of SMEs and business process digitalization. Social capital and business collaboration through networking approach could generate technological innovativeness and economies of scale among the SMEs and thereby improve competitiveness in their businesses. In the current globalized world, SME's competitiveness and sustained growth highly depend on efficiency and productivity. Education, the scale of business operations, usage of banks for transactions, and training in business support services are the determinants of productivity and business growth. Finally, this study identified three conditions for successful technological adaptation – availability of technologically skillful workforce, identification. of opportunities of new technologies, and supporting working and policy culture

Keywords: *Competitive challenges, economic globalization, SMEs, SME performance, technological challenge*