

Leveraging Industry 4.0 Technologies to Accelerate Economic Development in Emerging Economies of Third-World Nations: Main Approaches*

John Ayieko AKOKO
Silesian University of Technology, Gliwice, Poland.
ORCID: 0000-0002-3046-7782

Janet okello
Silesian University of Technology, Gliwice, Poland. Janet.okello@polsl.pl
ORCID: 0000-0002-8620-3452

Eric MUNYESHURI
Silesian University of Technology, Gliwice, Poland. Eric.munyeshuri@polsl.pl
ORCID: 0000-0001-8144-2027

Ambrose OLUOCH
Silesian University of Technology, Gliwice, Poland. Ambrosini.okello@gmail.com
ORCID: 0009-007-4593-7269

Correspondence should be addressed to: John Ayieko AKOKO, akokojohn@gmail.com

* Presented at the 45th IBIMA International Conference, 25-26 June 2025, Cordoba, Spain

Abstract

With the modern technologies of the Fourth Industrial Revolution known as Industry 4.0, the economies utilizes these technologies for growth especially in the third world countries. Industry 4.0 can be used to speed up the economic development with the infusion of the pillars such as Artificial Intelligence (AI), Internet of Things, Big Data Analytics, Cloud Computing, Augmented Reality amongst others. The traditional methods of developing an economy no longer exist and can never be relied upon in this fast-moving world and this would lead to slow growth across the sectors. The increase in population has also increased the pressure on the existing models of economic growth thus the need for incorporating of Industry 4.0 technologies as a solution. This paper will highlight how these technologies can promote good policies and implementations while accelerating the growth in industries, agriculture and at the same time promote sustainability. One of the recommendations of this paper is to promote education in area of technologies, health and agriculture with a focus on Industry 4.0. Without Industry 4.0, many emerging nations would never see their potential in economic growth.

Keywords: Industry 4.0, Economy, Growth and Development