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Framing Manufacturing Development in Africa and the Influence of Industrial Sustainability

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Abstract

The aim is to examine the academic literature on manufacturing development in Africa with a view to determining the extent to which concepts relating to industrial sustainability have been covered. Using Nigeria as a case study, and taking a sample of relevant academic publications, this study has found that literature on manufacturing in Nigeria does not cover important concepts of industrial sustainability such as industrial symbiosis, circular economy, sustainable business models, cleaner production, and a range of other related concepts. A plausible explanation for this is that there has been a weak link between industry and research communities in Nigeria. The paper contributes evidence towards mustering more action for the advancement of industrial sustainability in Africa. It also shows a clear practice, policy and literature gap.

Keywords: Sustainability; Industrial Development; Manufacturing; Nigeria; Developing Countries

1. Introduction

Manufacturing development is widely considered as the most promising option for African countries in their bid to exit low income status. Many stakeholders’ reports on the role of manufacturing in African economies confirm that manufacturing development not only helps African countries to accumulate capital, but also provide employment for their growing working populations [1][2][3]. Manufacturing offers a viable path for skill and technology development

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as well as serve as an incentive for infrastructural development. Considered in comparison to the service-based economy, the manufacturing-based economy is said to be the most relevant for many African countries at the moment. This is because it can generally absorb more of the largely unskilled and semi-skilled workforce on the continent than the former. Again, when compared to the commodities-based economy that many African countries run at the moment, a manufacturing-based economy is considered much better. This is not only because of its higher value-added but also for the fact that it insulates economy from the shocks in global commodity prices. Already, there are global manufacturing value chains – such as textiles, metal processing, leather, and agro-processing – in which certain African countries are beginning to find a niche. Countries in this category include Ethiopia, Kenya, and South Africa, who are now starting to intensify efforts to leverage their comparative advantages through specific manufacturing sector development programmes. Even the already industrialized countries such as the UK, which have transitioned into service-based economies are now looking for new ways to re-shore manufacturing in response to declining growth and employment. Overall, the importance of manufacturing can never be overemphasized, not least when it comes to the context of development for African countries.

With so much attention going into manufacturing development in African countries these days, the question now is: Is manufacturing development being considered in the context of sustainability? Are the issues relating to industrial sustainability, resource efficiency, or circular economy of importance in the ongoing discourse on manufacturing development on the continent? These are quite important questions seeing how the manufacturing sector has always been a significant contributor to carbon emissions, resource depletion, and environmental degradation. Moreover, if African countries have been equally signatories to the growing number of global environmental and welfare agreements such as the 2015 Paris COP 21, the United Nation’s SDGs, and the International Labour Organization’s conventions, then it is important that conversations on manufacturing development in these countries be checked for alignment with the agreements. Also, the spate of casualty and damage caused by unchecked manufacturing development in Asian countries like China has been alarming [4]. If African countries truly hope to avoid these consequences while pursuing the “Next-global-manufacturing-hub” status, a cleaner path has to be charted. This means that from the very onset, manufacturing development discussions on the continent ought to include the industrial sustainability keyword in them.

This study aims to examine extant literature with a view to finding out whether industrial sustainability concepts are being covered in the ongoing discussion on manufacturing development in Africa. The study focuses on Nigeria, which is Africa’s largest economy [5], and which is said to be on the verge of diversifying from a largely oil-based economy to a manufacturing-based one. The rest of this paper has been divided into three main sections: first is the section where a quick overview of the method employed in the literature review is given. The second section discusses the key findings, while the third section presents recommendations and concluding comments.

2. Research method

This study applies the content analysis method on the academic literature on manufacturing in Nigeria. Content analysis relies on the occurrence, non-occurrence and frequency of words to draw inferences on the given dataset – which in this case is the academic literature on manufacturing in Nigeria. Content analysis has been adjudged an important method for conducting literature review [6], and is generally considered a powerful qualitative data analysis technique [7]. Three steps were involved in the application of content analysis for this study. First was to generate a list of words which are most commonly associated with industrial sustainability. This was done by mining the most frequent author-supplied keywords from top academic articles on industrial sustainability. Author-supplied keywords are considered useful when finding the terms most closely associated to a given topic [8]. The second step was to collect the most relevant sample of academic articles on manufacturing in Nigeria. This was done using Scopus and Google Scholar. The third and final step involved analyzing the text in each collected article for occurrence, non-occurrence and frequency of the industrial-sustainability-related keywords. This step was completed using a free online text analysis tool. Overall, the adopted methodology is considered suitable for the current study. Being a systematic method, it offers room for transparency and repeatability [9].
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