9TH CESA YOUNG PROFESSIONALS SUSTAINABILITY IMBIZO 2021

Introducing

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YOUNG PROFESSIONALS SUSTAINABILITY IMBIZO 2021

AN ASSESSMENT OF THE APPLICATIONS OF INDUSTRY 4.0 IN CONSTRUCTION PROJECT MANAGEMENT IN SOUTH AFRICA

18 AUGUST 2021

YPF
Young Professionals Forum

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CONTENT

ABSTRACT

❖Construction Industry is the biggest labour force employer and a major shareholder in the global economy *(McKinsey, 2017).*

❖Pace of adaption of I4.0 in the industry globally the lowest compared to smaller markets of the global economy *(Ahuja, et al., 2009; McKinsey, 2017)*.

❖Limited application of existing technologies within the construction industry *(Alaloul et al., 2018)*.

❖I4.0 increases project output and improves management efficiency *(Ahuja, et al., 2009; Maskuriy, et al. 2019; McKinsey, 2017).*

❖Appeal to invest in science and technology for a more innovative construction industry

❖Investing in low-cost technology would cultivate all-round high tech design, construction and management *(Ahuja, et al., 2009; Maskuriy, et al. 2019).*

PURPOSE OF STUDY

❖Establish the status of the application of I4.0 in CPM and construction in South Africa.

❖Assess alignment of with global trends / developments in line with United Nations Sustainable Development Goals.

❖Identify research and market gaps in South African Construction Industry in line with implementing I4.0 in CPM.

❖Determine the benefits, disbenefits and opportunities for the level of I4.0 applications in CPM and the construction industry.

RESEARCH QUESTIONS /OBJECTIVES

1. To determine the applications of Industry 4.0 at the different phases of construction project management (CPM) in South Africa.

2. To investigate the extent to which Industry 4.0 is applied during the construction phase of projects in the South African construction industry.

3. To evaluate the extent to which Industry 4.0 is applied in construction documentation management (CDM) in South Africa.

4. To determine the challenges that affect the adoption of Industry 4.0 in project management in the South African construction industry.

5. To determine the drivers for the adoption of Industry 4.0 in Project Management in the South African construction industry.

EXPLORED INDUSTRY 4.0 TECHNOLOGIES

1. Cyber Physical Systems
2. Machine Learning
3. Internet of Things
4. Big Data
5. 3D Printing
6. 4D Printing
7. Block Chain
8. Augmented Reality
9. Virtual Reality

Thank You!

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