CHALLENGES AND OPPORTUNITIES FOR THE ADOPTION OF THE 4TH INDUSTRIAL REVOLUTION (4IR) IN THE PUBLIC SECTOR OF DEVELOPING COUNTRIES. THE CASE OF SOEs IN ZIMBABWE

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BACKGROUND & INTRODUCTION

- The fourth industrial revolution (4IR) is the advent of technologies that fuse the digital, biological, and physical, and disrupt the industries around the world (Schwab, 2016)
- The 4IR has brought about rapid technological changes such as artificial intelligence, robotics, big data, augmented reality, genetic engineering, additive manufacturing, the internet of things, cloud computing, and 3-d printing.
- These technologies have the potential to increase the speed, efficiency, and sustainability of the production of goods and services including in Africa (Signé, 2022).
- Dynamic, Volatile, Uncertain, Complex, And Ambiguous (VUCA) forces, together with the effects of the Covid-19 pandemic , imply that SOEs need a paradigm shift in their way of doing business to be in tandem with the realities presented to them

PROBLEM STATEMENT

- Notwithstanding the benefits that other EMEs have benefited from the successful application of 4IR technologies, the phenomena have not been fully exploited by SOEs in Zimbabwe to maximize public value delivery.
- Aspects such as service delivery, financial performance, business processes, and corporate governance in SOEs are not commensurate with the level of development of 4IR.
- Motivation-to assess the state of readiness of the public sector, namely SOEs in Zimbabwe to use the (4IR) technologies to enhance their value creation.

LITERATURE REVIEW

- Technology in 4IR supports smart, data-driven, and global connectivity in a 21st Century mode of industrialization agenda. These innovations are empowering ever-more elevated levels of production efficiencies (Bai et al., 2020).
- Three distinct features of the 4IR are velocity, scope, and systems impact. Velocity refers to the speed at which 4IR technologies are spreading and evolving; Scope refers to the wide range of sectors, industries, and occupations affected by these technologies; Systems impact refers to the breadth and depth of changes that are already occurring and are expected to continue to develop in entire systems of production, management, and governance. This combination of velocity, scope, and impact is expected to be disruptive to many patterns of human existence
- Developmental state challenges- Hunger and poverty are the major concerns in Zimbabwe like most developing countries
- Zimbabwe has not been an apparent location for 4IR, given its economy is still rooted in primary production activities such as farming, mining as well as the informal sector, and burdened with high levels of unemployment, while the vast majority of its citizens lack advanced and, often, basic skills. Furthermore, the government has a poor track record of implementing complex (Sutherland, 2019).

ZIMBABWE'S ECONOMIC STRATEGY

- The National Development Plan (NDP) is Zimbabwe's economic blueprint aimed at promoting sustainable economic growth, employment, new wealth creation, national development, and poverty alleviation.
- The National Development strategy 1 (NDS1) is aimed at realising the country's vision 2030. The objectives of the strategy include; strengthening macroeconomic stability, achieving and sustaining inclusive and equitable real GDP growth; promoting new enterprise development, employment, and job creation; strengthening social infrastructure and social safety nets; ensuring sustainable environmental protection and resilience; promoting good governance and corporate social investment; and to modernise the economy through the use of ICT and digital technology.
- The successful implementation of this strategy is dependent on the successful adoption of 4IR technologies and opportunities such as E- governance.

THEORETICAL FRAMEWORK

- Public Value Framework – Moore (1994)
- Public values comprise the principles that should inform the government and its policies. According to Moore (1994), public sector executives are commissioned to create value. Thus, the day-to-day activities of public executives in different government institutions should express the shared objectives of both the elected representatives and the citizens (Qwabe and Ojogiwa, 2022). The public value theory accentuates the notions that the public sector must be purposeful to create substantive value, the sector must be politically sustainable and legitimate, and lastly that the administration and operation of the public sector must be viable with the availability of needed organisational capabilities.
- Development as economic transformation (McMillan et al 2017)- economic transformation is linked to two development processes that is structural transformation and sectorial transformation
- Implication-SOEs leveraging the benefits of 4IR to improve service delivery, organisational performance and becoming active catalysts of economic growth and development

FINDINGS

- **Opportunities include:**
- 4IR technologies ignite economic growth through business process efficiency, creation of new automated products and technological services.
- 4IR technologies such as AI and big data an be used to solve the major challenges such as hunger
- Proliferation of robotics such as drones may be applied to circumvent the country's constraints in poor infrastructure
- Employment transformation-creation of future jobs (promoting decent work)
- E-governance

FINDINGS

- **Challenges of the 4IR**
- Lack of finance- austerity measures
- Loss of comparative advantage in labour –technology leads to loss of jobs
- Lack of government backing,
- Concerns about security and privacy.
- Governance systems in SOEs
- Exacerbate social inequality

STRATEGIES

- GOVERNANCE- RBM director's contracts for evaluating contracts of CEOS in SOEs
- Reducing gaps in physical and digital infrastructure – Zimbabwe Digital Economy diagnostic
- Updated Curriculum- quality education and equipping labour force with 21st Century skills
- Building of the civil service done on the job, however SALARIES still low for the majority of the public service
- PPs in all sectors of the economy have enabled adoption of 4IR technologies and improvement of services

CONCLUSSIONS & RECOMMENDATIONS

- 4IR technologies such as AI and big data may be used to provide sustainable solutions
- Government to develop agile governance to develop the business environment for SOEs
- Financing Industry 4.0 demands investment in technology. Reduce physical gap in physical and digital infrastructure to spur technology adoption
- Paradigm shift to intrapreneurship- use of innovation to deliver public value
- Up -skilling – 21st Century skills (P21 Framework) & high-tech skills