

# COMPETENCIES FOR BUSINESS INCUBATORS IN A DISRUPTIVE CONTEXT: THE CASE OF SOUTH AFRICAN BUSINESS INCUBATORS

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## ABSTRACT

*The current business environment is characterised by technological disruptions associated with the Fourth Industrial Revolution and also the Covid-19 pandemic. Consequently, there is an even greater need to strengthen the activities of business incubators to capacitate them to inspire the success of entrepreneurship in South Africa. This paper performed a literature review of the existing technological and Covid-19 disruptions with reference to business incubators. It then inquired on the essential competencies that business incubators should possess in order to withstand the disruptions. The study found that the Fourth Industrial Revolution has resulted in general economic recessions, uncertainty, shifts in entrepreneurial opportunities and technology-based productivity, among other impacts. On the other hand, the Covid-19 pandemic has affected viability of many incubators, changed operational models and increased the cost of doing business. Competencies such as technology-based innovativeness, adaptability and networking have been found to be essential for incubators in the face of disruptions. Business incubators are encouraged to adopt technology and e-business models effectively to withstand the disruptions associated with the Covid-19 pandemic and the Fourth Industrial Revolution.*

**Keywords:** Technology, Competencies, Covid-19, Incubation, Fourth Industrial Revolution.

## INTRODUCTION

The world over, business incubation is a maturing concept. In South Africa, the concept has received significant recognition. In the literature, business incubation is thought to have started in the United States of America (USA) at the Batavia Industrial Centre in New York, which was founded by Joseph Mancuso in 1959 (Al-Mubarak & Wong, 2011). In South Africa, business incubation emerged through the formation of the Small Business Development Corporation (SBDC) in 1995 (Buys & Mbewana, 2007). Various studies have been conducted to explore business incubation from different dimensions (Lose & Tengeh, 2015); (Lose, 2019). These studies have yielded significant information on the nature, features and other imperatives for successful incubation. The present paper is based on the argument that the current operational environment is characterised by disturbances and disruptions epitomised by the Fourth Industrial Revolution (4IR) and the Covid-19 pandemic. One can therefore argue that there is a need for new competencies across all business operations in order to remain competitive. The paper inquires on the implications of the 4IR and the Covid-19 pandemic for business incubators. It focuses on the competencies that the business incubators require in order to successfully respond to these disruptions. It should be noted that business incubators have an essential role in the South African situation as they help accelerate the formation, survival and growth of businesses.

## GENERAL COMPETENCIES FOR BUSINESS INCUBATION

Definitions of business incubation tend to also point out the essential competencies of business incubators as shown in Table 1. (Sahay & Sharma, 2009) opine that business incubators are organisations that aim to accelerate the successful development of entrepreneurial enterprises through the provision of business support in the form of resources, services and business network contacts. This definition echoes other definitions, which are reviewed in Table 1 together with the key competencies entailed in the definitions.

<b>Definition</b>	<b>Key principles/competencies</b>
A business incubator is a facility that houses young, small firms to help them develop quickly into competitive businesses (Hughes Ireland & Morgan, 2007:155).	i. Housing young firms ii. Business development
A business incubator is an environment formally designed to stimulate the growth and development of new and early stage firms by improving their opportunities for the acquisition of resources aimed at facilitating the development and commercialisation of new products, new technologies and new business models. Business incubation is also a social and managerial process aimed at supporting the development and commercialisation of new products, new technologies and new business models (Eshun, 2009:156).	iii. Providing an environment for early development iv. Providing early necessities (physical, emotional, intellectual) v. Commercialising new products vi. Providing new business models
Business incubation is a unique and highly flexible combination of business development processes, infrastructure and people designed to nurture new and small businesses by supporting them through the early stages of development and change (United Kingdom Business Incubator, 2009:2).	vii. Nurturing new and small businesses
A business incubator is a business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services (Lose, 2016). These services are usually developed or orchestrated by incubator management and offered both in the business incubator and through its network of contacts. A business incubator's main goal is to produce successful firms that will leave the programme financially viable and freestanding. These incubator graduates have the potential to create jobs, revitalise neighbourhoods, commercialise new technologies, and strengthen local and national economies (NBIA, 2010:1).	viii. Business support ix. Accelerating business start-ups x. Business development
A business incubator is an organisation designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services that could include physical space, capital, coaching, common services, and networking connections (Entrepreneur, 2014:1).	xi. Mentoring xii. Training xiii. Coaching

Source: *Adapted from Theodorakopoulos, Kakabadse & McGowan, 2014)*

The present business environment has been subjected to the advent of significant disruptions, which have made it necessary for business incubators to acquire and exhibit new competencies. These new competencies are essential to ensure the success of incubatees and also to ensure the survival of the incubator. The essential role of re-modelling business incubation to withstand emerging disruptions should be considered in the context of the general situation in the South African economy. The Global Economic Monitor (GEM, 2012) classifies national economies into factor-driven, efficiency-driven and innovation-driven economies. South Africa is an efficiency-driven economy and is expected to move to an innovation-driven economy with time. A key attribute of the innovation-driven economy is business sophistication and innovation.

It is important to realise that an appropriate incubation model for South Africa should facilitate the progression from being an efficiency-driven economy to an innovation-driven economy. Furthermore, the world economic order is drifting towards the 4IR as reported by the World Economic Forum (WEF). This paper investigates the essential competencies required for South African incubators to withstand disruptions arising from the 4IR.

## **DISRUPTION**

Revolutions and civilisations have always been associated with shifts in the forces of production. In other words, the progression of life on earth has been related to the emergence of new phenomena or inventions which would disrupt the existing socio-economic order and take it to another level. Cases in point include the disruptions caused by the Iron Age and the Stone Age, primitive societies, the spread of the Egyptian civilisation from the Nile river, the emergence of new Greek philosophies, the French Revolution, the Agricultural and Industrial Revolutions and so on. It is true that every society has been subject to disruptive phenomena in its history. At the end of World War Two, the United States of America (USA) emerged as one of the superpowers that experienced minimum disruptions and for some time it had great potential to influence disruptions in the world. It is therefore not surprising that the first business incubator started in the USA. The significance of technology and related inventions in recent times has ignited the debate on issues related to the 4IR. Most theorists opine that disruption is often associated with new entrants to a sector or industries who adopt ways that defy existing models and transform traditional methods of profitability or operations (Habtay, 2012). According to (Girasa, 2020), disruptive technologies often follow stages, including the paralysis, reaction and transformation stages. At any stage of disruption, new competencies are required for the continued survival of businesses.

The 4IR is expected to result in significant changes to the socio-economic status of people around the globe. According to the WEF, the 4IR is bringing about the development of new techniques and business models, which will significantly reconfigure production processes, industry and society at large. The 4IR will result in a further shift from labour-intensive production to knowledge and skills-intensive production. In other words, intellectual capital has become vital in the next economic age. Therefore, a new model that solidifies fundamental intellectual capabilities has become important. The WEF (2019) reports that South Africa ranks below average in entrepreneurial culture and preparedness to take entrepreneurial risks. This observation implies that there is a need to improve certain ways in which entrepreneurship programmes and related support systems are undertaken (Grimaldia & Grandia, 2005). At the heart of entrepreneurship development in South Africa are incubators and reinvigorating the way incubators operate can be a tactic to improve entrepreneurship and economic development in South Africa (Lose et al., 2016). The current model of incubation being followed is arguably mainly characteristic of factor-driven economies where the provision of infrastructure, institutions and policies is central. The argument being pursued in this paper is that of an incubation model which allows and promotes the establishment of sophisticated businesses, which sustain the South African economic environment evidenced by a low rate of collapse. The rationale for new competencies for business incubation in South Africa stems from the realisation that despite the widespread concern for entrepreneurship and small business development, unemployment and mortality rates for small and medium enterprises remain high in South Africa (Lose, et al., 2016). It can be posited that something is not being done right. As the main initiative specifically for enhancing the survival of young businesses, incubation is a

focal area for consideration. (GEM, 2012) statistics indicate that South Africa's pool of intentional entrepreneurs is 14 percent, which is well below the average for efficiency-driven countries, which is 27 percent. Individuals who intend to pursue a business opportunity within the next three years are defined by the GEM as intentional entrepreneurs.

Given the above, the present paper inquired into the following questions:

1. What are the major disruptive factors of the 4IR and the Covid-19 pandemic in the South African SMME sector?
2. What are the critical competencies for small business incubators in the disruptive context?

## METHODOLOGY

The study was based on a systematic review of literature related to: (1) the disruptive context of business today focusing on the 4IR and the Covid-19 pandemic in South Africa, and (2) competencies for business incubators in the disruptive context. In order to find documents for review, a library search of publications and books related to the 4IR and the Covid-19 pandemic was conducted. Publications were reviewed, purposively focusing on issues related to disruptions of existing systems due to new 4IR technologies and also due to the Covid-19 pandemic. After establishing the twelve concepts indicated in Table 2, it was found that a saturation level had been reached since no new information related to the study was emerging. After establishing the disruptive contexts, another search for publications that offered competencies to business incubators was made. Table 2 illustrates the findings.

## FINDINGS

Findings on the disruptive context of business in the South African environment are presented in Table 2.

<b>Table 2 THE DISRUPTIVE CONTEXT OF BUSINESS TODAY</b>	
Covid-19 disruptions	- Economic recession (Jackson, et al., 2020)
	- Debts, defaulting (Jackson et al. 2020)
	- Business closure (Evans, 2003)
	- Interrupted demand and supply
	- Increased cost of doing business (McKibbin & Fernando, 2020)
4IR disruptions	- Uncertainty (Evans, 2003)
	- Cyber-attacks (Evans, 2003)
	- Technology-based productivity (Evans, 2003)
	- Shifts in entrepreneurship opportunities (Bowmaker-Falconer & Herrington 2020)
	- Digital business models (Bowmaker-Falconer & Herrington, 2020)
	- Business dynamism (Schwab & Davis, 2018)

Table 2 indicates that the disruptive context arising from Covid-19 and 4IR disturbances in South Africa has resulted in economic recessions, debts, business interruptions and increased cost of doing business. These have been caused by the measures implemented to control the spread of Covid-19 such as social distancing and lockdowns. In addition, high rates of change in the technological environment, characterised by digital models, have characterised the South African landscape as a result of the 4IR.

<b>General competencies</b>	<b>4IR focused competencies</b>	<b>Covid-19 focused competencies</b>
Innovation (Schumpeter, 1934)	Adoption of new technologies for innovation	Use of innovative technologies by incubators to resuscitate and initiate businesses during the Covid-19 disruptions
Risk taking (Knight, 1921)	Take risks to start new 4IR technology-based operations	Start new 4IR-based incubation models
Exploitation of intermediaries (Toms et al., 2020)	Employ 4IR-based technologies to engage intermediaries and stakeholders	Network with key stakeholders of the Covid-19 pandemic using 4IR-based technologies
Multilateral responsiveness (Jackson et al., 2020)	Engage relevant stakeholders to adopt 4IR technologies	Collaborate and partner with other incubators with the aid of 4IR technologies
Adaptiveness (ILO, 2020)	Adapt incubation model to the 4IR	Adapt to the Covid-19 pandemic with technology
E-business prioritisation (Evans, 2003)	Implement e-business models commensurate with 4IR	Capitalise on e-business to sustain operations
Technology leadership (Schwab & Davis, 2018)	lead in 4IR technological adoption	Lead in technology adoption
Investing in technology capacitation (Schwab & Davis, 2018)	Invest in 4IR digitalisation and capacitation	Invest in 4IR technologies in following World Health Organisation Covid-19 guidelines
Digitalised governance (Schwab & Davis, 2018)	Implement digital incubation governance structures	Capitalise on digitalised governance structures for Covid-19 resilience

As indicated in Table 3, the use of 4IR technologies by business incubators can be an important strategy to ensure business continuity in the Covid-19 pandemic. One of the key opportunities available for incubation in Africa, and South Africa especially, is the development of varied models to cater for new and existing ventures. It was earlier indicated that technology hubs have become more prevalent and are centred in urban areas with little attention given to rural areas. Traditional business models that require little or no use of facilities such as internet, office space or resources also seem to be lagging in the adoption of the 4IR. Independent studies done at Purdue University and Ohio University in the mid-1990s found that incubators contribute to both job creation and the survival of new businesses and therefore require a variety of models. Although the Business Incubator concept started as a resource-sharing initiative, its role and characteristics have evolved and it has become an important tool offering many services like training, consulting and networking (Peters, 2004). There are a variety of measures of incubation performance or outcomes such as occupancy rate, added value of incubator service, the number or proportion of firms graduated, growth of the tenant firms, jobs and wealth created (Phan, 2005); (Chan & Lau, 2005); (Hackett & Dilts, 2008), and number of patent applications per firm (Colombo & Delmastro, 2002). It is essential to use the new competencies established in this study in implementing measuring systems that strengthen the recognition and acknowledgement of the role of incubation as a vital tool for entrepreneurship and ultimately economic growth.

## CONCLUSION

South Africa's incubators face complex trade-offs between what they want to do, whom they want to serve and what funding is available for that purpose, amid the 4IR and Covid-19 disruptions. The disruptions related to the 4IR have left the incubators with technological adoption as the only major option for sustainability. On the other hand, the Covid-19 pandemic has threatened to destroy various sectors and industries. It has been established in this context, that the adoption of 4IR outcomes such as artificial intelligence, robotics, digitalization and online platforms can be a major option to ensure business continuity. Accelerator models confront the reality that certain investors such as governments, impact investors, and donors are incentivised to support activities with defined social impact and attempt to chart conducive environments for entrepreneurs to receive support. Additionally, incubators are still expected to reach sustainability in a few years, despite serving populations with limited resources. This scenario points to the need to adopt technology to withstand existing operational pressure, ensure continuance and weather disruptions. One would argue that most business incubators, similar to their incubates, have had, and will continue to have, an evolutionary path, changing what they do in response to existing disruptions and critical assessment. It is imperative to understand why technology hubs are the best mechanisms for the outcome's incubators are trying to create, even if they are difficult to describe and even harder to measure. Technology incubation seems to have worked in its own eco-system and has translated insights into interventions for young entrepreneurs (Lose et al., 2016).

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