The Southern African Journal of Entrepreneurship and Small Business Management
ISSN: (Online) 2071-3185, (Print) 2522-7343

Apprenteneurship framework: A comprehensive support guide for public business incubation

Author:
Gail Motlhaudi[1]

Affiliation:
[1]Department of Management Sciences, Faculty of Economic and Management Sciences, Sol Plaatje University, Kimberley, South Africa

Corresponding author:
Gail Motlhaudi,
gail.motlhaudi@spu.ac.za

Dates:
Received: 24 Oct. 2024
Accepted: 28 Jan. 2025
Published: 29 Apr. 2025

How to cite this article:
Motlhaudi, G., 2025, 'Apprenteneurship framework: A comprehensive support guide for public business incubation', *Southern African Journal of Entrepreneurship and Small Business Management* 17(1), a1000. https://doi.org/10.4102/sajesbm.v17i1.1000

Background: Business incubators are recognised for the entrepreneurial support services they offer incubatees towards their performance. However, challenges have been identified regarding the effectiveness of types of services provided by public incubators. The study aims to provide insights into the services that incubatees require from business incubators.

Aim: This study investigates ways the Northern Cape (NC) public business incubators can support their incubatees effectively through relevant service offerings.

Setting: The ecosystem of business incubation in the NC consists of 4 public business incubators and approximately 50 business incubatees.

Methods: A qualitative methodological approach with purposive sampling was employed to gather data from 4 business incubator managers; 17 incubatees and 10 small, medium and micro enterprises (SMME) owners with business experience. Interviews were conducted, transcribed and analysed using ATLAS.ti.

Results: A framework was proposed that encapsulates how public incubators (from pre- to post-incubation) can support incubatees and promote entrepreneurship. Effective incubation is coupled with the key support service of industry-specific mentorship and completing the Apprenteneurship Framework for effective incubation. This framework offers guidance for an incubatee-centric approach, distinguishing itself from the generic 'one-size-fits-all' strategy typically employed in public business incubation within the NC. An addition, it provides clear guidelines for incubators to enhance their support services.

Conclusion: Business incubators need to align their support services offered with the specific needs of their incubatees to ensure effective incubation. This can be achieved by adapting the Apprenteneurship Framework to incorporate an incubation approach focussed on personalised services that enhance the entrepreneurial capabilities of incubatees.

Contribution: A new term was coined – apprenteneurship – which amalgamates the concepts of business incubation and entrepreneurship-centred apprenticeship all envisioned to promote effective incubation.

Keywords: business incubators; incubatees; entrepreneurial support services; SMMEs development framework; Northern Cape; South Africa.

Introduction

Across the world, small, medium and micro enterprises (SMMEs) are widely recognised in academic and policy discourse for their critical contribution to the future development and sustainability of global business ecosystems. It is arguable that most entrepreneurial activities happen in SMMEs (Chimucheka 2013). Rungani and Potgieter (2018) contend that SMMEs lead world economies and serve as a source of livelihood and employment for these economies. Small, medium and micro enterprises contribute to countries' national products by means of manufacturing valuable goods or rendering services to both end users and/or other enterprises; hence, their excellent performance and sustainability are of paramount importance. However, before SMMEs can become these vehicles of economic and societal change, they are unfortunately often inundated with alarming failure rates ranging between 60% and 80% (Leboea 2017; Mhlongo & Daya 2023).

In the context of South Africa, studies (Leboea 2017; Mhlongo & Daya 2023) found that SMMEs in South Africa often fail within the first year of establishment, and in turn, contribute to the growing unemployment rate of 31.9% as of Q42024. More specifically in the Northern Cape (NC) province, which is mostly rural and has spatial complexities (Biyase & Zwane 2018), SMMEs make up only

1% of the distribution of national SMME statistics that surveyed the number of SMMEs in the country per province (Stats SA 2022), which equates to approximately 30 000 compared to the total of 2.6 million nationally. The poor performance of SMMEs nationally, with respect to their high failure rate and minimal contribution to increased job creation, has urged the South African government to prioritise the support and development of SMMEs through several initiatives and programmes intended to provide SMMEs with a variety of services (Government Gazette 2023). One such initiative is that of business incubators.

The concept of business incubators originated in the 20th century in Western countries with the purpose of being a tool to be used primarily for economic development and also to assist in creating new businesses in a community (Sherman & Chappell 1998). In 2002, the European Commission (EC 2002) added to the definition of a business incubator by stating that it is an organisation that systematises and hastens the process of developing successful enterprises by providing a comprehensive and cohesive range of support processes such as: office space, business support services and access to networking opportunities. Furthermore, the United Kingdom Business Incubation (2009) expanded on the definition and developed it in entrepreneurial terms to encompass a:

> '[*U*]nique and highly flexible combination of business development processes, infrastructure and people, designed to nurture and grow new and small businesses by supporting them through the early stages of development and change'. (p. 2)

Over the years, the concept began to gain popularity among academics and the definitions expanded. Pettersen, Aarstad and Hovig (2016) opine that business incubators should focus on providing tenants with the opportunity to leverage network resources both internally and with external agents. Furthermore, scholars (Ahmed et al. 2020) have contributed to a more practical understanding of the concept of business incubation by stating that it embodies businesses that are newly established with the goal of fulfilling a particular need or gap in the marketplace.

In the South African context, the phenomenon of business incubation is a relatively new concept that emerged in 1995 and is strongly driven by the public sector (Department of Trade and Industry [DTI] 2014). Since then, the business incubation movement has grown to a total of 101 incubators (Department of Small Business Development [DSBD] 2022a). The impact of public business incubators, which comprise the majority of South African incubators, is the focus of this study. In the NC, the business incubation landscape is significantly small. A study done by Van der Spuy (2019) revealed that the Northern province has only seven business incubators, four of which are public (Motlhaudi 2024) and the majority (57%) have a very weak service offering. In the study on the NC business incubators, Van der Spuy (2019) revealed that the support services offered by the business incubators are limited to access to physical premises, access to equipment, administrative support, access to finance, access to training and development, and that these services are of poor quality. Furthermore, the range of support services offered by public incubators often fails to align with the specific needs of entrepreneurs, which in turn contributes to the challenges they face in achieving sustainable business success.

Support gaps exist within the NC public incubators, underscoring the need to enhance services that help incubatees operate sustainably and contribute both economically and socially. This study, therefore, aimed to explore ways to improve the structure of public business incubation support in these incubators to enhance service efficacy. To achieve the research aim, a qualitative research design with a phenomenological approach was used to gain a deeper understanding of public incubation support for incubatees within the Northern province. Primary data were collected in three phases from three respondent groups using probability sampling and analysed with ATLAS.ti. The literature review explores the research gaps addressed by the study, followed by the methodology section detailing the approach and data collection process. The findings are then presented and discussed, with research implications outlined.

Literature review

Business incubation model

Business incubators, as a phenomenon, spread globally dating back to the establishment of the first one in the United States of America in 1959 (Dubihlela & Van Schaikwyk 2014). Since then, it has been estimated that there are more than 7000 business incubators that exist worldwide and the majority of these are backed by national governments and local organisations (van Weele, Rijnsoever & Nauta 2017) with a strong emphasis on various fields such as science, technology, economics, business management, marketing and much more. There is a difference between public and private business incubators with regard to their primary aims, a combination of support services, orientation towards innovation and entrepreneurship, and more distinctly their incubation models (Masutha & Rogerson 2014). In South Africa, public incubators are leading in terms of the number of business incubators and the geographical spread (DSBD 2022b). Therefore, public incubators are the focus of this study because they align well with those that dominate the NC incubation landscape. The NC province is a geographically sparse province that requires public incubators to have sufficient coverage of incubatees to guarantee easy access to support services by incubatees.

According to Muriithi, Ndegwa and Juma (2018), the impact of public business incubators, which comprise the majority of business South African incubators, is evident in the fact that 80% of incubated businesses graduate successfully from the incubation environment and continue to operate sustainably. These figures can be compared with the 50% success rate of non-incubated businesses in the country (Muriithi et al. 2018). Muriithi et al. (2018) acknowledge that incubated

businesses do continue to fail and that the failure of incubated businesses is closely linked to the quality of selected businesses that join the incubators, which speaks to the selection criteria that precede the pre-incubation process. To reduce this failure, incubators should select proven businesses, that is, those that have developed actual products or services, to be the potential candidates for incubation because unproven businesses in incubation often do not always work and could even be 'a recipe' for utter failure (Muriithi et al. 2018). This situation, therefore, speaks to the need for business incubators to have strict but relevant selection criteria against which potential incubatees can be measured (Van der Spuy 2019).

Teece and Linden (2017) refer to the business model as an organisation's consideration of its business logic that describes how its value is created, delivered and captured to its stakeholders. Business model design can assist entrepreneurs to plan for the successful operation of the business through segmenting of the target market, identification of diverse sources of income and detailing the financial plans (Florek-Paszkowska, Ujwary-Gil & Godlewska-Dzioboń 2021; Ritter & Lettl 2018; Ujwary-Gil & Godlewska-Dzioboń 2021). According to Mian, Lamine and Alain (2016), the public business incubation model has evolved over the years through three phases. The first phase where the incubator programmes emphasised employment creation and economic restructuring by offering shared services such as inexpensive physical space, access to shared equipment and facilities such as Wi-Fi with which incubatees can operate. The second phase focussed on the research and science park model that seeks to promote network commercialisation by supporting the incubatees with more business development services that include skills development, networking and mentorship (Mian et al. 2016). Finally, scholars (Mian et al. 2016) mentioned that the third phase encompassed the amalgamation of innovation centres, research and science parks, accelerators and specialised incubators which are all different models with different aims, but all serve the purpose of supporting start-up entrepreneurs in the various contexts on which they focus.

Conversely, the Global Forum (2013) has argued there is no specific model for business because the models differ on the basis of the different goals, the business environment, the owners and funders. Aranha (2003), however, acknowledged four broad business incubator models, namely: bricks and mortar, virtual portal, the hub and 'eggubator'. The brick-and-mortar model is an ancient model which places immense emphasis on providing facilities that are related to physical infrastructure such as office space and on-site services such as administration support. Virtual portal, also known as 'without walls', is a relatively new business incubator model that seeks to deliver business incubation processes using additional means aside from physical facilities. The hub model, also known as the venture incubator model, entails an amalgamation of the brick-and-mortar and the virtual portal models (Aranha 2003). The eggubator model provides a full complement of services with high quality information. This model also entails the incubator acting as a parent company and a source of support and networking through the establishment of committed internal and external business associations that offer reliable sources of funding and integrate all the other models (Aranha 2003). In the South African context, Raizcorp is a good example of an eggubator model (Tambudze 2012).

Overall, there is a general consensus that the business incubation period should be a 3-year one that encompasses pre-incubation, incubation and post-incubation (UKSPA 2015; Zhou & Zondo 2023). The pre-incubation period typically entails selection into the programme and assistance with administrative and compliance support, while the incubation period includes access to the core and entire spectrum of services offered by the incubation ranging from access to physical facilities, access to funding, mentorship, training and development, access to marks and more. Finally, the post-incubation period entails reduced access to the incubator's services and resources often at a cost (Albort-Morant & Oghazi 2016). After the 3-year period, incubatees are expected to have been established well enough to graduate from the incubator and allow for new cohorts to be admitted. However, this is not always the case. In cases such as the NC, where public business incubators currently provide a minimalist approach to incubation modelling comprising a limited range of services (i.e., a limited version of the above-stated first phase), the outlined incubation process and duration are not often linear. Therefore, the researcher opines that the absence of key support services poses a challenge especially for the NC incubatees who need sufficient support in order to create innovative solutions that can help enhance their economic viability and international competitiveness. In addition to the limitation of the incubation models, this study contends that public business incubators especially those in the NC province face more challenges. One such key challenge is the spectrum of support services offered by the business incubators. The researcher endeavoured to expand on this challenge in the 'support services' section.

Support services

Business incubators exist to provide incubatees with developmental support through an amalgamation of business support services to carry out business activities (Lose 2021). According to Lose (2021) and Ndabeni (2008), there are numerous factors and support services offered by business incubators that play a vital role in promoting the efficiency and performance of incubatees. These include, but are not limited to, physical facilities and infrastructure such as office space, technology resources such as access to Wi-Fi, financial resources (access to funding and business loans), training and development, networks and mentorship. Khalil and Olafsen (2010) are of the opinion that some of the crucial ways in which business incubation should support incubatees are extending access to a supporting environment that enables them to gain access to all the necessary resources in the start-up stage of their businesses, reducing their start-up costs, assisting in

connecting entrepreneurs to the networks and providing resources that are essential to their business growth.

Mrkajic (2017) has categorised business incubators into generations, namely: first, second, third and fourth generation incubators. Each generation of incubator plays a particular role in supporting the incubatees. Battistella, De Toni and Pessot (2018) highlighted that business support services ought to be placed in five specific categories.

Firstly, access to physical resources, whereby incubatees are provided access to physical resources such as physical facilities such as office or manufacturing space, co-working spaces, equipment, information and communications technology (ICT) related tools, Wi-Fi access and printing facilities (Battistella et al. 2018).

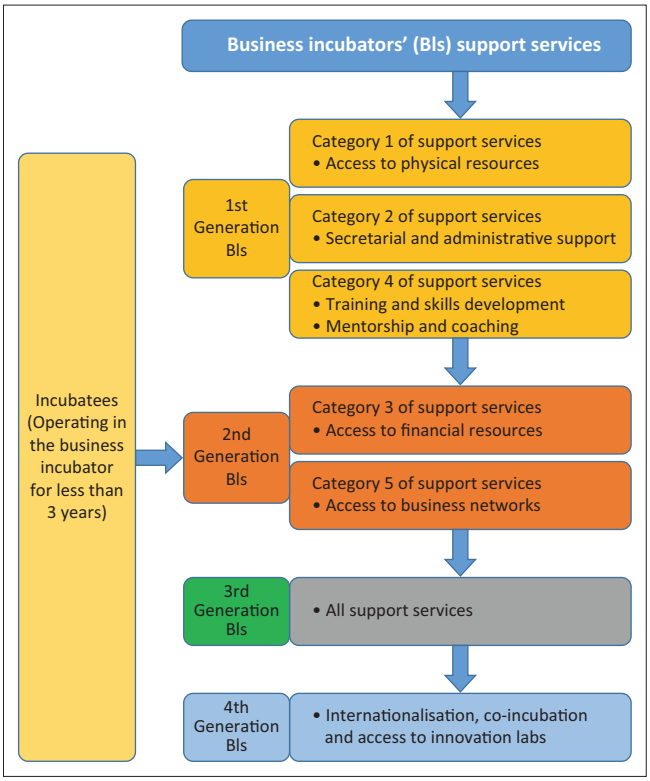
Secondly, secretarial and administrative support entails assisting the incubatees with services such as company registration, tax compliance, industry-specific licensing requirements, particular industry regulations and compliance and overall legal 'red tape' (Battistella et al. 2018).

Thirdly, access to financial resources incorporates support by connecting incubatees with potential funders or investors as well as linking them to direct investment (Battistella et al. 2018).

Fourthly, training and skills development, mentorship and coaching. New SMMEs need access to start-up assistance in the form of access to training for the development of specialised skills, mentorship and coaching. Such support allows SMMEs to be better positioned for success and competitiveness, particularly against the backdrop of globalisation (Battistella et al. 2018).

Fifthly, access to business networks. One of the key benefits of empowering incubatees with access to business networks is that it allows them to attain more knowledge, better understanding of specific business settings and environment, and provides opportunities for forging alliances within the relevant industry, thus resulting in expansion and internationalisation (Battistella et al. 2018). Furthermore, scholars such as Dubihlela and Van Schaikwyk (2014) state that access to business networks enables incubatees to form part of a service delivery network that gives them market access for the selling of their goods or rendering of their services.

As a result of these five categories, Battistella et al. (2018) developed a conceptual framework linking incubator types to essential business services, aiming to clarify the minimum offerings for each incubator type. Figure 1 illustrates this framework: first-generation incubators are associated with physical resources (category one), second-generation incubators with administrative support, training and mentorship (categories two and four) and third-generation incubators with financial resources and business networks (categories three and five) (Battistella et al. 2018).



Source: Created by the author (Motlhaudi 2024), adapted from Battistella, C., De Toni, A. & Pessot, E., 2018, 'Framing open innovation in start-ups' incubators: A complexity theory perspective', *Journal of Open Innovation: Technology, Market, and Complexity* 4(3), 1–14. https://doi.org/10.3390/joitmc4030033; Bakkali, C., Messeghem, K. & Sammut, S., 2014, 'Toward a typology of incubators based on HRM', *Journal of Innovation and Entrepreneurship* 3(3), 1–10. https://doi.org/10.1186/2192-5372-3-3

FIGURE 1: Conceptual framework for incubatee support through incubator generations.

Public business incubators

The NC start-ups are inundated with significant challenges. Babalola and Agbenyegah (2016) revealed that these challenges include the lack of business and financial skills, relevant information on available financial offerings, support for securing financial loans and grants, business networks, business decision making capacity, appropriate technology, poor location and a suitable workforce. Moreover, Babalola and Agbenyegah (2016) argue that business incubators in the NC region are not sufficiently addressing the challenges faced by incubatees, and it is, therefore, reasonable to suggest that incubators should expand and enhance the range and quality of business support and development services offered to better meet the unique needs of their incubatees.

Furthermore, the researcher of this study notes several limitations in the existing literature on NC-based public business incubators, particularly the frequent use of quantitative research methods that fail to provide an in-depth understanding of the context surrounding the phenomenon. Munnik (2021) states that many studies rely on sample sizes that are either too small or too large resulting in an inability to capture the specific experiences of incubatees. An addition, Lesákova (2012) explains that most studies focus on metropolitan areas neglecting rural regions such as the NC, which are in greater need of support.

Given these limitations, personalised experiences of incubation are best understood through detailed descriptions of incubatees' and incubators' encounters, activities and reflections within their specific contexts. Therefore, a qualitative approach was employed in this study to gain a deeper understanding of the phenomenon being examined. This approach not only addresses the gaps in existing literature but also allows for a more comprehensive exploration of the unique challenges faced by incubatees in rural regions such as the NC, providing valuable insights that quantitative methods fail to capture. Ultimately, the qualitative methodology used in this study aims to enrich our understanding of public business incubators' impact on their incubatees, particularly in contexts that are often underrepresented in research.

Theoretical framework

This study was conducted through the theoretical lens of the Entrepreneurial Ecosystems Theory (EET) which, according to Rambe (2022), comprises an entrepreneurial ecosystem that is arranged in a manner that encourages interdependent actors to pursue action that is well aligned with their entrepreneurial agency. This view is crucial to this study because the researcher recognises that the interdependent actors in this study are the public business incubators and the incubatees. This is witnessed in how the business incubators are largely dependent on the successful graduation of their incubatees to validate their significance and impact, and that the incubatees enormously depend on the support services provided by business incubators to assist them in operating their start-ups optimally. Both these actors have entrepreneurial agencies and work in tandem in pursuit of their successful achievement.

Research methods

Research approach and design

This study made use of the qualitative research method, which is linked to interpretivism. Interpretivism places emphasis on the exploration of the intricacy of social phenomena with the objective of gaining a deeper understanding of social structures, experiences and events together with the values people attach to these phenomena (Rubin & Babbie 2013). As such, this approach was appropriate for this study as it enabled the researcher to engage with the participants to better understand their personal perspectives and experiences to establish what counts as authentic knowledge. The type of qualitative research method focussed on was phenomenological studies which allowed the researcher to gain a genuine understanding (Nieuwenhuis 2016) of the support services offered by the NC public business incubators as well as the lived experiences of the business incubatees in relation to the assistance provided by the incubators.

Research settings

The study is set on the ecosystem of business incubation which comprises primarily of public business incubators and business incubatees within the NC context. To enhance the data on the business support required by incubatees, post-incubation (to operate effectively outside the incubation environment), the researcher conducted interviews with SMME owners to gain their perspectives, thereby further informing the types of support that incubators should provide.

Population

The population of the study comprised of individuals who are well versed and experienced with business incubation processes because of having directly or indirectly created, managed, been a beneficiary or gained exposure to them. These individuals were found in the NC's largest cities (Kimberley and Upington) and were categorised into three groups: business incubator managers, business incubatees and SMME owners operating businesses older than 3 years outside the incubation environment. All groups were selected purposefully because of their similar characteristics and participated voluntarily.

Sampling

The focus of this study is based on three target sample groups. Firstly, four business incubator managers of the only four public business incubators existent in the NC province at the time of the study, because they have a plethora of information regarding the purpose, plans, structures, resources and a profound understanding of the processes of the incubator. These particular four business incubators were regarded as appropriate for the study as they satisfied the criteria of being public business incubators that operate with a specified mandate that differs from that of private business incubators. Each business incubator had one manager based on their respective organograms and as such were selected accordingly. Secondly, a sample of 17 incubatees who are formally registered with any one of the four targeted public business incubators and who were willing to partake at the time of the study was regarded as suitable to partake in the focus group interviews. The researcher made use of semi-structured focus group interviews to better interact with the incubatees without placing strict limitations on the engagements; thus, creating a better sense of the state of the incubators from the incubatees' perspective. Based on the four business incubators, four focus groups were formulated and interviewed separately. This type of research instrument also enabled the researcher to pose follow-up questions based on the incubatees' responses and acquire an expansive understanding of the phenomenon being studied as opposed to using what could be the limited perspective of individual incubatees (Al-Ababneh 2018). Finally, 10 owners of SMMEs who have been in operation for more than 3 years in the NC province were interviewed individually by means of semi-structured face-to-face interviews as a means to equip the researcher with knowledge of the precise business needs of start-ups seeking to operate optimally, based upon the SMME owners' practical experiences. Interviewing the SMME owners also allowed the researcher to gain access to the perspective of businesses that

have made it past the reported first-year threshold of failure, even without the amplified support of an incubation environment. In the individual interviews held with these SMME owners, questions on mentorship needed and experienced, support services necessary to operate successfully, resources needed to improve business performance and views on incubation from an outsider's perspective were asked.

Data collection

The data collection process comprised of three phases which all entailed face-to-face interviews that emanated from prearranged meetings with the participants wherein their consent was received. The researcher used a different interview protocol, for each of the three participant groups, which was critiqued by senior academics in the field of entrepreneurship. Phase One encompassed conducting individual interviews with the four public business incubator managers to gain insight into the strategic aspects of the incubators and their various processes. Phase Two entailed the use of semi-structured focus group interviews with the four groups of business incubatees that provided the researcher with insight into the business incubatees' collective mindset. These four focus groups were held separately and a total of 17 incubatees participated voluntarily. Although the business incubators housed approximately 50 incubatees, not all were willing to participate in the interviews. The number was limited because of the many incubatees that anonymously quoted fears of being discriminated against for airing their personal views against the incubators. Finally, Phrase Three used qualitative data collection in the form of individual interviews with owners of SMMEs older than 3 years who are not currently incubated. This method allowed the researcher to gather important data regarding their business performance and the factors that have contributed to their performance, to aid the incubation process on the support needed for an optimal business.

Data analysis

The data that were collected from the individual interviews with the business incubator managers in Phase One, the semi-structured focus groups' interviews with the business incubatees in Phase Two and the individual interviews with SMME Owners with businesses older than 3 years in Phrase Three, were analysed, interpreted and coded using the qualitative data analysis software, ATLAS.ti. The interviews were initially recorded digitally and transcribed. Thereafter, the transcriptions were uploaded on ATLAS.ti and analysed using inductive thematic analysis to identify the patterns and emerging themes from the data collected. These emergent themes were then grouped, written up and substantiated using direct quotations from the participants.

Credibility, transferability, dependability and conformability (qualitative)

When conducting a qualitative study, trustworthiness is ascertained using credibility, transferability, dependability and conformability (Lincoln & Guba 1985; Tracy 2010). In the context of this study, the researcher ensured credibility by intentionally developing early rapport with respondents, encouraging honesty and transparency, and having peer debriefing of the research project. Transferability was attained in the study through being transparent about the details of the research and data collection process; while dependability was ascertained through the peer reviewing of the research instruments by a panel of experts that made recommendations on the changes required to better the quality of the study. Finally, confirmability was achieved through data collection from three different sample groups to avoid singularity and bias, and to get a more versatile perception of the research objective in question.

Ethical considerations

Ethical approval to conduct this study was obtained from the Central University of Technology Free State and Faculty Research and Innovation Committee (reference no.: FMSEC06/22).

Results and discussion

Business incubation model for Northern Cape public business incubators

In the public business incubation sector, four types of incubation models emerge which are bricks and mortar, virtual portal, the hub and 'eggubator'. It is tempting to speculate that based on its provision of a holistic group of services with high quality information, the eggubator business incubation model would be suitable for the NC public business incubators. This model comprises the incubator playing the role of a parent company and that of a foundation for the support offered. The model also entails assisting beneficiaries with networking opportunities through the formation of committed business associations both internally and externally that offer dependable sources of funding and integrate all the other models (Aranha 2003).

Based on the individual interviews with the four public business incubator managers, it is clear that while all incubators have some form of structure and processes that resemble a model, there are significant flaws in the conceptualisation and implementation of these models, as many do not appear to effectively serve their intended purposes. This is evident in some of the responses provided by the four managers when they were asked to elaborate on their incubation models during the interviews. The managers replied as follows:

> 'Unfortunately, most of the incubatees have been here for too long but we have decided to put them all in pre-incubation for a period of 6 months.' (Business Incubator Manager A)

> 'Our model focuses on three parts being the pre-incubation which focuses on doing the assessments, helping incubatees set up their businesses and be compliant. The send part is actual incubation which is entered by incubatees that are in their official first year. This incubation part takes two years, and the third part is post-incubation often for second year incubatees. The post-

incubation part entails focusing on market readiness and penetration.' (Business Incubator Manager B)

'To begin with there is at least three months of generic business management training where we analyse their business concepts through a personal business coach who will also help them with goal setting for their businesses and self-mastery.' (Business Incubator Manager C)

'Our entire incubation process is 3 years. In this time we provide the SMMEs with business development and product development services as well as access to all of our business support services and resources.' (Business Incubator Manager D)

The researcher acknowledges the managers' responses regarding the incubation models and processes but aims to critique the inconsistency in enforcing these models and processes. This inconsistency, observed in the findings, is evident in instances where some incubatees have been operating within the incubators for longer than the standard 36-month period. This extension places a strain on the incubators' resources and complicates the acceptance of new cohorts of incubatees.

Support services for Northern Cape public incubates

Business incubator managers' perspective

To better understand the support services spectrum of the incubators, Phase One of the data collection process entailed the researcher asking the business incubator managers the following questions whose responses are captured in Table 1: 'What business support services are offered to incubatees by the incubator?'; 'What additional support services, in your view, could be offered by the incubator to incubatees?' and 'What, in your view, are the business needs of the incubatees?'

It is clear from the managers' responses captured in Table 1 that there is a disparity between the exact support services offered, the ones that the managers think should be offered and the ones the managers opine that the incubatees actually need. This disjuncture observed from the managers' responses raises a concern about the incubators' ability to support the incubatees the way they need and leads the researcher to speculate that such disjuncture may easily form part of the challenges reported in the literature (Van der Spuy 2019) pertaining the performance of the incubators and the incubatees they house.

Business incubatees' perspective

Phase Two of the data collection process involved semi-structured focus group interviews with the business incubatees, during which the researcher asked them to provide detailed descriptive narratives of their experiences with support services. This approach aimed to gain a deeper understanding of the support services offered by the incubators.

Through these discussions, the incubatees shared valuable insights into the range of services they received, with the key responses captured as follows:

'Financial assistance like bookkeeping, administration like registration and compliance, printing facilities, Wi-Fi access, office space and legal advice.' (Business Incubatee C1)

'Good start-up nurturing, master classes and business support in that I am now a service provider for the incubator.' (Business Incubatee C3)

'I personally benefit from the office space and some networking opportunities like getting to exhibit my creations at trade expos.' (Business Incubatee D1)

TABLE 1: Public business incubator managers' perspectives on the support service spectrum.

Business incubator manager	What business support services are offered to incubatees by the incubator?	What additional support services, in your view, could be offered by the incubator to incubatees?	What, in your view, are the business needs of the incubatees?
Manager A	'The incubatees are assisted with *office space* at a subsidised rental amount, access *to physical facilities* and *possible funders*. We also help them with *administration* and *business compliance* based on their business and industry needs'	'The incubator could try to help the incubatees with more practical resources that are important to their specific business such as machinery for those who are in the manufacturing business'	'The incubatees always speak of the issue of markets to sell to. This is a challenge especially in our province [*Northern Cape*]'
Manager B	'We offer access to various support services such as *physical facilities, administration support, monthly business assessments, training, financial management, mentorship, legal services, networking* (at exhibitions) and access to *technology* and *internet*'	'We need to improve the current services we offer now and somewhat deepen them and strengthen their quality. We need to offer *better accounting and marketing services* to our incubatees. We also need to find a way to categorise our incubatees properly according to their *actual needs* so that we are able to tailor our services for them. Finally, there is also a need for *in-house technicians* that can assist our incubatees and transfer quality technical skills'	'I would say they need help with *marketing* and access to *funding* and the *latest machinery* and *equipment*'
Manager C	'We provide our incubatees with *bookkeeping services, business mentorship, business development services, masterclasses, sales training,* help prepare their seed funding *loan proposals* for the development funding institutions likeNEF, NYDA and SEFA. We also provide a soft loan for up to R20 000'	'*Industry-focused mentorship*, a *makerspace* for product development and a *3D Printer*'	'The biggest need is *funding*'
Manager D	'We provide our SMMEs with *office space, accounting services, business planning,* access to *finance* and financial programmes, *enterprise development support, supplier development assistance, product development* and access to *business opportunities* with big corporates. We also help with *branding, website development* and setting up *e-commerce stores*'	'I think it would be great if we could offer our SMMEs *access to shared economic infrastructure* such as printers, boardrooms and so on but unfortunately, we have limited space and office equipment/machinery'	'I would say a lot of the incubatees need an *Enterprise Resource Planning system* which will help them manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations. Others also really need help with *access to markets* and *specialised machinery*'

SMME, small, medium and micro enterprises; 3D, 3-dimensional.

'For me it is just the office space and not much else beyond that.' (Business Incubatee D4)

The researcher notes that the service that the incubatees predominantly reported on is that of access to office space, particularly at a subsidised rental fee. Even though access to an office space from which to operate is an important resource required by incubatees and is one that started being subsidised by incubators dating as far back as the 1960s–1980s (Allahar & Brathwaite 2016), other researchers (DeVaughn & Leary 2018; Njau, Wachira & Mwenda 2019) state that first-generation business incubators ought to avail a wider range of services to their incubatees. Furthermore, the researcher opines that the type of business support offered by the incubators offers a more reactive approach as opposed to a proactive one. This approach entails that the incubators provide support only when it is being requested by the incubatees or only when there is an urgent situation that demands intervention through the service offering of the incubator. It is possible that this approach could have an adverse impact on early-stage businesses, such as incubatees that are susceptible to failure because the approach could lead to the businesses being complacent to the point of no growth. In this way, unfortunately, any small challenge or blunder could easily collapse the business before it has found its establishment and has operated successfully beyond the start-up stage.

An addition, the researcher asked the incubatees about the types of services they felt were necessary from the incubators to improve the support they were currently receiving. This question was crucial as it helped bridge the gap between the services offered by the incubators and the actual needs of the incubatees.

The following responses were provided:

'Mentorship is needed from pre-incubation all the way to post-incubation.' (Business Incubatee A4)

'We need access to markets (organisations and individuals) to which to our sell products and render services.' (Business Incubatee B2)

'Supportive management staff of the incubator with relevant and practical business skills and knowledge is what is needed.' (Business Incubatee B3)

'There is a need for capacitated business developers with technical skills and business skills.' (Business Incubatee C5)

'Experienced mentors who are in the same industry are needed.' (Business Incubatee D2)

'Knowledgeable business development officers are needed.' (Business Incubatee D3)

The business incubatees reiterated the need for mentorship from industry experts with knowledge and experience in operating a business successfully. Another key service that emerged was that of incubator staff and business developers with sufficient business acumen and capacity to support the incubatees sufficiently. Finally, the incubatees acknowledged that they need markets to which they can sell their products and render their services. These support services needed by the incubatees are in congruence with literature (Ahsan et al. 2018; Battistella et al. 2018; Dellermann et al. 2018; Sagath et al. 2019) which reiterates the importance of this type of array of services towards the performance of the incubated businesses. The researcher, however, observes that the services requested by the incubatees are in line with those offered by first-generation incubators which raises concerns that the NC public incubators are failing to meet even the most basic of service needs and are in fact employing a reactive approach to service offering for the incubatees, as opposed to a proactive approach. In addition to the incubatees' perspective on the support services they need from the business incubators, the researcher posed a similar question in the individual interviews with the SMME owners and the responses are recorded in the 'small, medium and micro enterprises owners' perspective' section.

Small, medium and micro enterprises owners' perspective

The third and final phase of the data collection process encompassed individual interviews with SMME owners with businesses older than 3 years and operating outside the incubation environment. To gain their input on the key services needed to perform optimally in a space with limited protection from the harsh realities of the business environment, which is the space that the incubatees will go into post-incubation, the researcher first inquired if the SMME owners were familiar with the concept of business incubation and its purpose and only 7 out of 10 owners reported having an understanding of incubation. The remaining 3 wished to not comment on a concept with which they were not familiar. As such, the researcher posed the following question to 7 SMME owners with an understanding of incubation: 'What business support services do you think incubatees need most from incubators to create a solid foundation for their businesses post-incubation?' The responses were recorded as follows:

'I would say access to markets. Also, with resources aligned with the 4IR (4th Industrial Revolution) so that technology is at the centre of any incubator and its incubatees.' (SMME Owner A)

'I think the incubator needs to help SMMEs with sales and marketing and the overall business acumen of the employees.' (SMME Owner C)

'It is important that business incubators are managed by people who understand the business space and who possibly have run their own businesses.' (SMME Owner E)

'Besides the technical knowledge of their specific industry and work, I think incubators need to help incubatees build business acumen. They need to give them access to resources that will help better their soft skills because that is what is needed to start and operate a business successfully and sustainably.' (SMME Owner F)

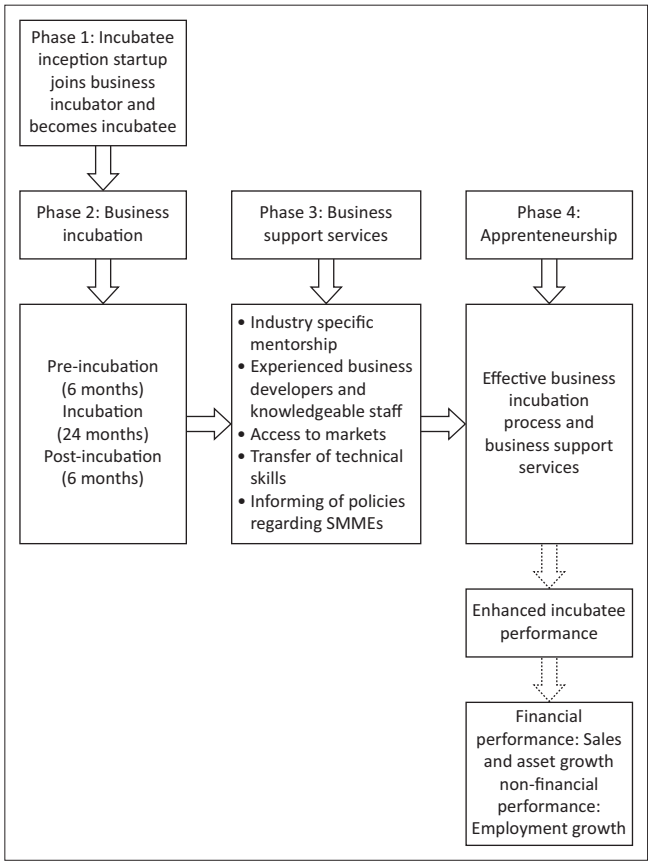
'Incubatees really need to be afforded opportunities to source businesses for themselves. There needs to be a clear plan to help them fish for themselves. So essentially give them access to markets.' (SMME G)

'Help with setting up management systems for the business. Financial and Human resources.' (SMME Owner G)

> 'In depth mentorship to the businessman with regards to finances [*how to manage finances and how to maximise funds*]' (SMME Owner H)

The responses provided by the SMME owners reiterated those of the incubatees in that there were strong and similar themes with regard to business incubators needing the relevant incubator staff with experience in business; provision of mentors who have extensive industry-specific knowledge and access to markets, networks and clientele that allow the incubatees to capitalise on resources such as funding, investors and correct suppliers.

Based on the analysed data from the interviews (phases one, two and three), as well as secondary data from Nair and Blomquist (2020) and Lose (2016), the researcher developed the Apprenteneurship Framework to facilitate a more inclusive incubation process for incubatees, as illustrated in Figure 2. The researcher of this study defines the term 'apprenteneurship' as the act of establishing an entrepreneurial venture using the knowledge and acumen acquired from work experience. In the context of this study, apprenteneurship is the result of the amalgamation and implementation of two concepts, that is, business incubation and enhanced SMME performance. As such, the Apprenteneurship Framework is one that advocates for the continued support of SMMEs, even in the midst of their failure. The framework postulates that SMMEs should not only be incubated but should also be exposed to the realities of business through the vehicle of mentorship from large organisations and industry experts. This guidance is aimed to help SMMEs benefit both from the resources and services provided by business incubators and the 'real-world' experience of mentors with business and industry acumen, thus, leading to their enhanced performance.



SMMEs, small, medium and micro enterprises.

FIGURE 2: Apprenteneurship framework for effective incubation of incubates.

The apprenteneurship framework

The Apprenteneurship Framework begins with Phase One where its target audience of incubatees enter the incubation environment. At the stage of inception and initial entry into the business incubators, these incubatees run the risk of failure; hence, it is crucial that they embark on the apprenteneurship journey by immersing into the incubation process. To aid this process, scholars Yin and Luo (2015) advocate for clear criteria and a scoreboard to select the successful applicants. The developed scoreboard by Yin and Luo (2015) is made up of 30 criteria based on the Real-Win-Worth (Is it real? Can it win? Is it worth doing?) framework. Other studies (Becker & Gassmann 2006) suggest that specific business incubators intentionally seek out start-ups or spin-offs from existing successful businesses with high growth potential to incubate. Albeit, according to Jeffrey, Lévesque and Maxwell (2016), previous studies conducted on business incubators have revealed that a compulsory set of selection criteria is seldomly used and instead subconscious preferences are relied upon to select the incubatees. Moreover, scholars Wulung, Takahashi and Morikawa (2014) argue that despite the importance of incubation selection criteria, minimal efforts have been made to develop a mathematical model that addresses incubatee selection.

This study recommends the use of a set selection criteria and has consequently developed the pre-incubation selection criteria matrix, as displayed in Figure 3, to select incubatees to be admitted into the incubation programmes. This matrix focusses on 10 specific key criteria namely: entrepreneurial aptitude, employment, business idea alignment to incubator, education, skills or experience, business feasibility and viability, team, revenue, product or service offering novelty and lead time from ideation to start-up. Each criteria of the 10 criteria has sub-criteria that will be used to score the incubatees as seen in Figure 3.

Following the use of a criteria matrix to select the incubatees, Phase Two of the Apprenteneurship Framework takes effect and highlights the importance of the incubatees undergoing an incubation process that starts with a typical 6-month pre-incubation period, followed by a 24-month incubation period and finally another 6-month post-incubation period. During this overall 36-month period, the framework advocates for the use of an incubation model that provides a holistic group of support services, similar to those offered by third-generation business incubators, with high-quality information. According to Aranha (2003), such a model that offers this is the eggubator model which entails the business incubator playing the significant role of a parent company

Pre-incubation selection criteria matrix			
	Criteria	**Individual score**	**Max score**
1	**Entrepreneurial aptitude**		**5**
	• Creativity and innovation		1
	• Risk taking		1
	• Determination and perseverance		1
	• Work ethic		1
	• Independence		1
2	**Employment**		**6**
	• Employed full-time		1
	• Employed part-time		2
	• Not full time employed		3
3	**Business (idea) alignment to incubator**		**1**
	• Aligned		1
	• Not aligned		0
4	**Education**		**6**
	• Relevant formal education		1
	• Relevant formal training		2
	• Industry-specific knowledge		3
5	**Skills/ experience**		**10**
	• Leadership and management		2
	• Operations		1
	• Finances		2
	• Marketing		2
	• Business acumen		3
6	**Business feasibility and viability**		**3**
	• Tested business idea in the market		2
	• Business potential		1
7	**Team**		**3**
	• Competent team members		2
	• Competent outsourced skills.		1
8	**Revenue**		**6**
	• Existing revenue		3
	• Potential revenue in less than 6 months		2
	• Potential revenue in more than 6 months		1
9	**Product/Service offering novelty**		**5**
	• Uniqueness of product/service		2
	• Product/service not easily duplicable		3
10	**Lead time from ideation to start-up**		**5**
	• Satisfactory research conducted		2
	• Speed of implementation from idea phase to start-up phase		3
	Total		**50**

FIGURE 3: Pre-incubation selection criteria mix.

that supports its incubatees with business networking opportunities by means of creating business associations internally and externally that the incubatees can rely on for credible sources of funding. The eggubator model encourages the proper implementation process of incubation from pre-incubation all the way to post-incubation. This is a critical element, as the interviews with the business incubator managers clearly indicated that the NC public incubators either lack incubation models entirely or have ineffective ones.

Phase Three of the Apprenteneurship Framework outlines the business support services identified in the study as crucial for the effective incubation of incubatees. These key services include: industry-specific mentorship, experienced business developers and knowledgeable staff, access to markets, transfer of technical skills and information on policies regarding SMMEs. Finally, Phase Four of the Apprenteneurship framework exhibits how the onboarding of a suitable incubate, combined with the effective implementation of the correct eggubator incubation model and critical support services, leads to successful apprenteneurship.

The researcher of this study has coined the term 'apprenteneurship' which is a term that involves the act of establishing an entrepreneurial venture utilising the knowledge and acumen acquired in the journey of entrepreneurship. The term also reflects the external guidelines and assisted processes within entrepreneurship venture creation and management. Apprenteneurship is made up of two words which are apprenticeship and entrepreneurship, and together these words allude to how and when in the incubator, incubatees receive the type of exposure that an apprentice in a corporate setting would receive, just from an entrepreneurship-centred perspective. In an apprenticeship, an individual who is more experienced assists an individual who is less experienced by way of demonstration, support and examples (Dennen & Burner 2008); and in the context of incubation, the incubator seeks to expose the incubatees to individuals, organisations, networks and resources that are more acclaimed in order to aid the learning component. Hence, the researcher postulates that the strongest aspect of the apprenteneurship framework is its focus on industry-specific mentorship.

It is evident from the data collected in Phase Two that the incubatees accentuated their need for mentors who have extensive industry-related experience. The incubatees shared that access to these types of mentors would play a significant role in enabling them to gain access to widespread networks and rich knowledge that will help assist in improving their overall business efficiency. This very sentiment was also reiterated in Phase Three where the SMME owners operating outside of the business incubation environment shared the importance of having a mentor who has walked the journey before, gained tremendous experience and now shares that invaluable experience with someone who is still starting the journey, that is, an incubatee. In the context of the Apprenteneurship Framework, industry-specific mentors are also sought to serve as accountability partners for the incubatees, which in the long haul will minimise any operational and production inefficiencies on the part of the incubatees. Access to such accountability partners in the form of mentors will also capacitate the incubatees to learn the value of the work produced by their business while developing their personal soft and hard skills. In the view of Davies (2017), formal mentorship is often looked to as a vessel to help enhance the essence of entrepreneurial learning. This kind of learning is closely related to the personal development and self-mastery of an entrepreneur and the development of the business venture. Hence, it is of paramount importance that entrepreneurs should have mentors who can help in facilitating their entrepreneurial learning to aid the entrepreneurs' growth and enhance business efficiency.

Moreover, the framework postulates that there is a correlation between the implementation of apprenteneurship and enhanced incubatee performance in both financial metrics (sales and asset growth) and non-financial metrics (employment growth). This aspect of enhanced incubatee business performance is important as it could potentially help with issues of employment creation, more equitable distribution of wealth and contribution to countries' gross domestic product (GDP) and overall economic welfare (Mmusi 2020; OECD 2020). Accordingly, in the context of the NC incubatees, there is a dire need to support them successfully so that they can perform well, operate their businesses sustainably and in turn make a contribution to the province's struggling economy and critical social needs (Babalola & Agbenyegah 2016).

Areas for future research

This study was conducted in the context of public business incubators in the NC province specifically, which is the region wherein minimal research exists on the topic of incubation. Therefore, there is value in expanding the current literature, for the NC context, based on other factors related to incubation besides performance. Moreover, there is value in conducting a comparative study on public incubation in other provinces and developing best practices which can then be applied by other public business incubators across South Africa.

Conclusion

This study endeavoured to investigate ways in which NC public business incubators can support their incubatees effectively through relevant service offerings. To achieve this research aim, the researcher collected data from the NC public business incubator managers, business incubatees and SMME owners outside the incubation environment. Upon analysing the findings thematically, it emerged that NC incubators need to shift from the first-generation incubator model and services and rather look to adopt an Eggubator model that incorporates third-generation incubator services. These support services needed by the NC incubatees include industry-specific mentorship, experienced business developers and knowledgeable staff, access to markets, transfer of technical skills and information of policies regarding SMMEs.

The most important service identified is that of industry-specific mentorship as it allows incubatees to gain exposure to numerous experiences that will capacitate the incubatees for further business practice. This observation is made in the face of the current passive approach that is often employed by first-generation business incubators in the NC. The study notes that incubatees do not need this passivity as they are already under great strain because of the province's economic and social challenges. Instead, these incubatees need an effective proactive approach that will aid in them becoming established and sustainable, which will ensure that they are able to effectively contribute to the province's economy. A proactive approach of this nature requires the incubators to put guidelines in place to enable them to proactively identify and meet the incubatees' business needs, as opposed to waiting for the incubatees to request such assistance. Some incubatees may lack the necessary 'business savvy' to effectively identify their business needs. In such cases, mentorship from experienced mentors with strong business acumen and relevant industry expertise would be highly beneficial. The proposed practice of integrating industry-specific mentors within an Apprenteneurship Framework can be implemented by having mentors voluntarily guide incubatees, serve on the incubator's advisory board or act as non-executive directors in the incubatees' businesses. In these roles, mentors can share their knowledge and expertise while receiving a small percentage of the incubatees' earnings as compensation.

Conducting a literature review for this study proved rather challenging owing to the lack of academic research on the public business incubator landscape in the NC. As such, the findings of this study are unique because they extend extant literature relating to the manner in which public business incubators need to assist incubatees and the resultant business support services they should offer their incubatees, in order to ensure that they grow, graduate timeously and become independent and sustainable beyond the incubation environment.

Moreover, the proposed Apprenteneurship Framework can serve as a blueprint that public business incubators can use to inclusively support their incubatees towards attainable tangible and measurable results in their businesses.

It is important to note that this study has certain research limitations that should be taken into account, such as the small sample size of respondents as a result of the limited population of public business incubators and incubatees in the province (Stats SA 2022), and a lack of longitudinal data to verify interviewee responses.

Acknowledgements

The author would also like to acknowledge Dr J.H. van Zyl for the fulfillment of the supervisory role of the initial PhD research study.

This article is partially based on the author, G.M.'s Doctoral's dissertation entitled, 'Factors affecting the performance of SMME incubatees: Evidence from public incubators and incubatees in the Northern Cape Province', towards the degree of Doctor of Philosophy in Management Sciences with specialisation in Entrepreneurship in the Entrepreneurship Development Unit, Central University of Technology, South Africa, with supervisor Dr J.H. van Zyl, received March 2025.

Competing interests

The author declares that no financial or personal relationships inappropriately influenced the writing of this article.

Author's contributions

G.M. is the sole author of this research article.

Funding information

This study was supported by the New Generation of Academics Programme (nGAP) under the University Capacity Development Programme of the Department (UCDP) of Higher Education and Training. Grant effective from January 2021.

Data availability

The data that support the findings of this study are available from the corresponding author, G.M., upon reasonable request.

Disclaimer

The views and opinions expressed in this article are those of the author and are the product of professional research. The article does not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The author is responsible for this article's results, findings and content.

References

Ahmed, N., Li, C., Qalati, S.A., Khan, A. & Siddiqui, F., 2020, 'Role of business incubators as a service provider n entrepreneurship development', *Journal of Entrepreneurship & Organization Management* 9(1), 1–7.

Ahsan, M., Zheng, C., DeNoble, A. & Musteen, M., 2018, 'From student to entrepreneur: How mentorships and affect influence student venture launch', *Journal of Small Business Management* 56(1), 76–102. https://doi.org/10.1111/jsbm.12362

Al-Ababneh, M, 2018, 'Focus groups', *Social Science Research Network* (SSRN), Atlanta, Gorgia. https://doi.org/10.4135/9781506307633.n331

Albort-Morant, G. & Oghazi, P., 2016, 'How useful are incubators for new entrepreneurs?', *Journal of Business Research* 69(6), 2125–2129.

Allahar, H. & Brathwaite, C., 2016, 'Business incubation as an instrument of innovation: The experience of South America and the Caribbean', *International Journal of Innovation* 4(2), 71–85. https://doi.org/10.5585/iji.v4i2.107

Aranha, S.A., 2003, *Incubators models. InfoDev Incubator Support Center*, Pontificia University Calolica, Rio De Janeiro.

Babalola, S.S. & Agbenyegah, A.T., 2016, 'Rural entrepreneurship: An insight into impeding factors influencing micro-entrepreneurial growth', *Journal of Applied Business Research* 32(6), 1751–1760. https://doi.org/10.19030/jabr.v32i3.9667

Bakkali, C., Messeghem, K. & Sammut, S., 2014, 'Toward a typology of incubators based on HRM', *Journal of Innovation and Entrepreneurship* 3(3), 1–10. https://doi.org/10.1186/2192-5372-3-3

Battistella, C., De Toni, A. & Pessot, E., 2018, 'Framing open innovation in start-ups' incubators: A complexity theory perspective', *Journal of Open Innovation: Technology, Market, and Complexity* 4(3), 1–14. https://doi.org/10.3390/joitmc4030033

Becker, B. & Gassmann, O., 2006, 'Gaining leverage effects from knowledge modes within corporate incubators', *R&D Management* 36(1), 1–16. https://doi.org/10.1111/j.1467-9310.2005.00411.x

Biyase, M. & Zwane, T., 2018, 'An empirical analysis of the determinants of poverty and household welfare in South Africa', *The Journal of Developing Areas* 52(1), 115–130. https://doi.org/10.1353/jda.2018.0008

Chimucheka, T., 2013, 'Overview and performance of the SMMEs sector in South Africa', *Mediterranean Journal of Social Sciences* 4(14), 783–795. https://doi.org/10.5901/mjss.2013.v4n14p783

Davies, C., 2017, 'Formal mentorship and entrepreneurial learning the case of a support programme in the Western Cape Clothing Sector', Master's thesis, University of the Western Cape, Cape Town.

Dellermann, D., Lipusch, N., Ebel, P. & Leimeister, J.M., 2018, 'Design principles for a hybrid intelligence decision support system for business model validation', *Electronic Markets* 29(3), 423–441. https://doi.org/10.1007/s12525-018-0309-2

Dennen, V.P. & Burner, K.J., 2008, 'The cognitive apprenticeship model in educational practice', in J.M. Spector, M.D. Merrill, J. Van Merrienboer & M.P. Driscoll (eds.), *Handbook of research on educational communications and technology*, 3rd edn., pp. 425–439, Erlbaum, Mahwah, NJ.

Department of Small Business Development (DSBD), 2022a, *Annual report 2021/2022*, viewed 20 August 2024, from https://www.dsbd.gov.za/sites/default/files/2023-10/DSBD%202021-22%20Annual%20Report_1.pdf.

Department of Small Business Development (DSBD), 2022b, *Incubation support*, viewed n.d., from https://www.dsbd.gov.za/article/incubation-and-digital-hubs.

Department of Trade and Industry (DTI), 2014, *South Africa business incubator establishment handbook: A guide to establishing business incubators in South Africa*, viewed 17 May 2024, from http://www.innovationeasterncape.co.za/wp-content/uploads/2016/05/sa_incubator_handbook.pdf.

DeVaughn, M.L. & Leary, M.M., 2018, 'Learn by doing or learn by failing? The paradoxical effect of public policy in averting the liability of newness', *Group & Organization Management* 43(6), 871–905. https://doi.org/10.1177/1059601116674826

Dubihlela, J. & Van Schaikwyk, P.J., 2014, 'Small business incubation and the entrepreneurial business environment in South Africa: A theoretical perspective', *Mediterranean Journal of Social Sciences* 5(23), 264–269. https://doi.org/10.5901/mjss.2014.v5n16p33

European Commission (EC), 2002, *Benchmarking of business incubators*, Final Report, Brussels.

Florek-Paszkowska, A., Ujwary-Gil, A. & Godlewska-Dzioboń, B., 2021, 'Business innovation and critical success factors in the era of digital transformation and turbulent times', *Journal of Entrepreneurship, Management and Innovation* 17(4), 7–28. https://doi.org/10.7341/20211741

Global Forum, 2013, *Global Forum on responsible business conduct*, OECD Conference Centre, Paris, France, June 26–27, 2013.

Government Gazette, 2023, *Regulation Gazette no.11628*, viewed n.d., from https://www.dha.gov.za/images/PDFs/CritcalSkills_102023.pdf.

Jeffrey, S.A., Lévesque, M. & Maxwell, A.L., 2016, 'The non-compensatory relationship between risk and return in business angel investment decision making', *Venture Capital* 18, 189–209.

Khalil, M.A. & Olafsen, E., 2010, 'Enabling innovative entrepreneurship through business incubation', in A. Lopes-Clares (ed.), *The innovation for development report 2009–2010: Strengthening innovation for the prosperity of nations*, pp. 69–84, Palgrave Macmillan, Basingstoke.

Leboea, S.T., 2017, 'The factors influencing SME failure in South Africa', Master's thesis, University of Cape Town.

Lesákova, L., 2012, 'The role of business incubators in supporting the SME start-up', *Acta Polytechnica Hungarica* 9(3), 85–95.

Lincoln, Y.S. & Guba, E.G., 1985, *Naturalistic inquiry*, Sage, Thousand Oaks, CA.

Lose, T., 2016, 'The role of business incubators in facilitating the entrepreneurial skills requirements of small and medium size enterprises in the Cape metropolitan area', South Africa Master's dissertation, Cape Peninisula University of Technology.

Lose, T., 2021, 'Business incubators in South Africa: A resource-based view perspective', *Academy of Entrepreneurship Journal* 27(1), 1–11.

Masutha, M. & Rogerson, C., 2014, 'Small business incubators: An emerging phenomenon in South Africa's SMME economy', *Urbani izziv* 25, S47–S62. https://doi.org/10.5379/urbani-izziv-en-2014-25-supplement-004

Mhlongo, T. & Daya, P., 2023, 'Challenges faced by small, medium and micro enterprises in Gauteng: A case for entrepreneurial leadership as an essential tool for success', *Southern African Journal of Entrepreneurship and Small Business Management* 15(1), a591. https://doi.org/10.4102/sajesbm.v15i1.591

Mian, S., Lamine, W. & Alain, F., 2016, 'Technology business incubation: An overview of the state of knowledge', *Technovation* 50–51, 1–12. https://doi.org/10.1016/j.technovation.2016.02.005

Mmusi, P., 2020, 'Critical success factors for SMEs in the Northern Cape Province', Master's thesis, University of the Free State, viewed 18 October 2024, from https://scholar.ufs.ac.za/server/api/core/bitstreams/b3826285-5122-4147-9385-751d77f5f4d5/content.

Motlhaudi, G.G., 2024, *A shift from surviving to thriving: Evidence from SMME incubates on assistance needed from public incubators*, Social Sciences International Research Conference (SSIRC), Hilton Hotel, Mauritius, October 28–30, 2024.

Mrkajic, B., 2017, 'Business incubation models and institutionally void environments', *Technovation* 68, 44–55. https://doi.org/10.1016/j.technovation.2017.09.001

Munnik, D., 2021, 'Outcomes of SMMEs participation in incubator programmes in South Africa', Master's dissertation, University of Cape Town, viewed 26 August 2024, from https://open.uct.ac.za/server/api/core/bitstreams/516b1f03-5f5a-4549-9608-8fa2e4599bcf/content.

Muriithi, S.M., Ndegwa, C. & Juma, J., 2018, 'Business incubators – The missing link to small business survival', *The International Journal of Humanities & Social Studies* 10(10), 201–209.

Nair, S. & Blomquist, T., 2020, 'The temporal dimensions of business incubation: A value-creation perspective', *The International Journal of Entrepreneurship and Innovation* 21(1), 38–46.

Ndabeni, L.L., 2008, 'The contribution of business incubators and technology stations to small enterprise development in South Africa', *Development Southern Africa* 25(3), 259–268. https://doi.org/10.1080/03768350802212022

Nieuwenhuis, J., 2016, 'Introducing qualitative research', in K. Maree (ed.), *First steps in research*, 2nd edn., pp. 49–70, Van Schaik Publishers, Pretoria.

Njau, J.M., Wachira, A.W. & Mwenda, L.K.M., 2019b, 'Effect of access to networks support provided by business incubators on technology based new venture creation in Kenya', *International Journal of Entrepreneurship and Project Management* 4(1), 33–50.

OECD, 2021, *Annual report on the OECD guidelines for multinational enterprises 2020: Update on national contact point activity*, viewed 15 September 2024, from https://www.oecd.org/daf/inv/mne/annualreportsontheguidelines.htm.

Pettersen, I.B., Aarstad, J. & Hovig, O.S., 2016, 'Business incubation and the network resources of start-ups', *Journal of Innovation and Entrepreneurship* 5(1), 1–17. https://doi.org/10.1186/s13731-016-0038-8

Rambe, P., 2022, 'Understanding factors affecting technology entrepreneurship of university-incubated firms', PhD thesis, University of the Free State, viewed 15 November 2024, from http://hdl.handle.net/11660/12076.

Ritter, T. & Lettl, C., 2018, 'The wider implications of business-model research', *Long Range Plan* 51(1), 1–8. https://doi.org/10.1016/j.lrp.2017.07.005

Rubin, A. & Rabbie, E.R., 2013, *Essential research methods*, 3rd edn., Cengage Learning.

Rungani, E. & Potgieter, M., 2018, 'The impact of financial support on the success of small, medium and micro enterprises in the Eastern Cape province', *Acta Commercii* 18(1), a591. https://doi.org/10.4102/ac.v18i1.591

Sagath, D., Van Burg, E., Cornelissen, J.P., & Giannopapa. C., 2019, 'Identifying design principles for business incubation in the European space sector'. *Journal of Business Venturing Insights* 11(2019), 1–31. https://doi.org/10.1016/j.jbvi.2019.e00115

Sherman, H. & Chappell, D.S., 1998, 'Methodological challenges in evaluating business incubator outcomes', *Economic Development Quarterly* 12(4), 313–321. https://doi.org/10.1177/089124249801200403

Stats SA, 2022, *Quarterly labour force survey quarter 1: 2022*, viewed 26 July 2024, from https://www.statssa.gov.za/publications/P0211/P02111stQuarter2022.pdf.

Stats SA, 2024, *Quarterly Labour Force Survey (QLFS) – Q4: 2024*, viewed 17 March 2025, from https://www.statssa.gov.za/publications/P0211/Media%20Release%20QLFS%20Q4%202024.pdf.

Tambudze, T., 2012, *A guide to South African Business Incubators*, The Column Index, viewed 02 September 2013, from http://www.sweech.co.za/article/a-guide-to-south-african-business-incubators-20121029.

Teece, D.J. & Linden, G., 2017, 'Business models, value capture, and the digital enterprise', *Journal of Organization Design* 6(1), 8. https://doi.org/10.1186/s41469-017-0018-x

Tracy, S.J., 2010, 'Qualitative quality: Eight "big-tent" criteria for excellent qualitative research', *Qualitative Inquiry* 16(10), 837–851. https://doi.org/10.1177/1077800410383121

Ujwary-Gil, A. & Godlewska-Dzioboń, B., 2022, 'Digital innovation hubs: Two-mode and network-based view on technology and services provided', *European Conference on Knowledge Management* 23(2), 1202–1211. https://doi.org/10.34190/eckm.23.2.327

United Kingdom Business Incubation (UKBI), 2009, *The business incubation development framework*, UK Business Incubation, Birmingham.

United Kingdom Science Park Association (UKSPA), 2015, viewed 14 January 2022, from http://www.ukspa.org.uk/.

Van der Spuy, S.J.H., 2019, 'The state of business incubation in the Northern Cape: A service spectrum perspective', *Southern African Journal of Entrepreneurship and Small Business Management* 11(1), a271. https://doi.org/10.4102/sajesbm.v11i1.271

Van Weele, M.V., Rijnsoever, F.J.V. & Nauta, F., 2017, 'You can't always get what you want: How entrepreneur's perceived resource needs affect the incubator's assertiveness', *Technovation* 59, 18–33. https://doi.org/10.1016/j.technovation.2016.08.004

Wulung, R., Takahashi, K. & Morikawa, K., 2014, *An interactive multi-objective incubate selection model incorporating incubator manager orientation*, Springer, Berlin.

Yin, B. & Luo, J., 2015, 'Critical factors in the selection of start-up incubator residents', *SSRN Electronic Journal.* https://doi.org/10.2139/ssrn.2735465

Zhou, H. & Zondo, R.W.D., 2023, 'The role of business incubation programmes on the performance of small and medium enterprises in South Africa', *The Seybold Report* 18(5). https://doi.org/10.17605/OSF.IO/SCYV2