

Theoretical foundations of incubator success: Applying business incubation and entrepreneurial value creation to post-incubatee development



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Dates:

Received: 28 June 2025
Accepted: 07 Oct. 2025
Published: 13 Feb. 2026

How to cite this article:

Serwadi, L.C., Amadi-Echendu, A. & Van Zyl, C., 2026, 'Theoretical foundations of incubator success: Applying business incubation and entrepreneurial value creation to post-incubatee development', *Southern African Journal of Entrepreneurship and Small Business Management* 18(1), a1195. <https://doi.org/10.4102/sajesbm.v18i1.1195>

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Background: A business incubator's main goal is to produce successful firms that will leave the programme financially viable and freestanding. Incubator graduates have the potential to create jobs, revitalise neighbourhoods, commercialise new technologies and strengthen local and national economies.

Aim: This study aimed to investigate the influence of business incubation and to develop a theoretically grounded and practically applicable framework that will address the business incubation process and service gaps identified during and after business incubation.

Setting: The population for this study was Gauteng-based entrepreneurs who have graduated or exited business incubation programmes, as well as incubation managers, mentors and programme developers.

Methods: A qualitative, inductive case study research design was used to gain a deeper understanding of the role played by business incubators and to what extent they were successful in enabling growth and sustainability.

Results: The provision of a structured business incubation mentoring and coaching approach enhanced the incubatees' business development skills and their confidence to position themselves in the market. Despite the many challenges that post-incubatees face outside an incubation programme, incubatees have marginally managed to find ways of ensuring the continued existence of their businesses.

Conclusion: Incubators enabled nascent entrepreneurs to develop and grow their businesses in the market post-incubation. Incubators are still limited in the provision of highly skilled industry mentors, and acquiring funding is a challenge for post-incubatees.

Contribution: A theoretical and practical gap was filled in understanding the influence of a business incubation process once entrepreneurs have graduated from the programme, as per the case of post-incubatees in the Gauteng province.

Keywords: business incubation; entrepreneurial value creation; incubators; post-incubatees; nascent businesses; coaching; mentoring.

Introduction

Establishing and operating a new business is a vital process in any dynamic economy. New businesses bring new jobs, increased incomes and added value, often by introducing new ideas, technologies and products to society. A successful new business hastens structural change, harnessing resources to produce the goods and services that people want but, crucially, which they are also prepared to pay for. Of course, not all new businesses grow and prosper (Hill et al. 2022; Lose & Mapuranga 2022; Mishra & Zachary 2015). However, failure has proven to be an important part of the business development process, encouraging learning and personal growth for entrepreneurs prepared to pick themselves up, dust themselves off and start again (Hill et al. 2022).

Notably, entrepreneurship generates social advantages by improving community engagement and vitality. Many entrepreneurs are increasingly delivering environmental payoffs as well by developing and commercialising solutions to some of the world's most challenging sustainability issues, such as climate change or sea and land pollution (Hill et al. 2023; Mehmood et al. 2019). In South Africa, like many countries, a perceptible initiative employed by the government, academia and the private sector to enhance business survival rates is the business incubation programme.

The business incubation programme and process aims to offset resource deficits at start-up phases of firms to ensure business stability, long-term survival and sustainable growth (Serwadi & Amadi-Echendu 2024).

The focus of business incubators is on assisting and nurturing the development of early-stage business ventures to a level where they can seize opportunities and compete in the market without additional support (Alegre & Parente 2022). The incubation process allocates a specified period of time to business building and the development of innovations (Iacono & Nagano 2017). During the incubation period, generally 3 years long, the incubated firms receive technical and managerial support in addition to logistics, which facilitates their access to funding mechanisms and promote partnerships with innovation agents (Vepo do Nascimento Welter, Sausen & Rossetto 2020). Mas-Verdu, Ribeiro-Soriano and Roig-Tierno (2015), cited in Van der Kwast, Vanderstraeten and Mondelaers (2022), maintain that the incubation process is important because incubated firms can acquire competencies that will help them to adapt to the market and prosper after graduating from an incubator (Serwadi & Amadi-Echendu 2024).

The swift development of business incubators has attracted academic consideration regarding their role in economic development, while other researchers have examined the geographical distribution of these incubators nationwide to determine if small, medium and micro enterprises (SMMEs) are receiving satisfactory business development and growth support (Tembe 2018).

However, with studies conducted, less emphasis has been placed on analysing the survival of enterprises post-incubation. Limited information exists relating to the survival or exit dynamics of nascent enterprises post-incubation, as enterprises are faced with the reality of having to nurture their enterprises on their own without support from a business incubation facility or structure (Gerlach & Brem 2015; Lose & Kapondoro 2020). Schwartz (2013), as well as Paula, Santos and Couto (2023), state that businesses enter into a high-risk period after graduating from an incubation programme that may last up to 3 years after incubation. This is a concern because, according to Barbeau (2019), businesses normally begin to show signs of growth only after leaving the incubator. Therefore, it is largely unknown as to whether incubation really acts to overcome the so-called resource deficiencies businesses face, particularly after they have graduated from business incubators (Şehitoğlu & Özdemir 2013; Sohail, Belitski & Christiansen 2023). Moreover, there is no profound evidence on the long-term outcomes of incubation and its significance in securing business survival and stimulating business growth (Bakkali et al. 2021; Hackett & Dilts 2008; Hausberg & Korreck 2020).

With small businesses facing unprecedented challenges from inflation, shifting markets and funding shortages, proving the sustained value of incubation programmes is essential to

securing their role as a cornerstone of national economic strategy and job creation. The objective of this research study was to investigate the influence of business incubation processes on the development of entrepreneurial performance and growth of post-incubatees using the business incubation theory and the entrepreneurial value creation theory. According to Lose et al. (2016), there are five mutually exclusive reasons for an entrepreneur to exit a business incubation process; these are reflected in the following section. The case study research design investigated incubation phases that led to the final stage of graduation in the context of the business incubation theory and the entrepreneurial value creation theory.

Business incubation and graduation from the incubation

Incubatees in business incubation programmes may graduate from these programmes for many reasons. The most common reasons for graduation include outgrowing available incubator space, spending the maximum allowable time in the programme and achieving mutually agreed-upon milestones (Al-Mubarak & Busler 2014; Mercer 2021). Therefore, the efficacy of an incubator can be measured by the number of enterprises that have successfully completed its programme within a designated timeframe. Although in countries such as Indonesia, post-incubation performance measurement is conducted at academic institutions as a start-up, spin-off and as an output of academic entrepreneurship is a complex process (Tritoasmoro et al. 2024). The Indonesian system utilises the lean start-up method, initially popularised by start-up development practitioners, which provides a pattern of start-up business development with validated learning quickly by relying on data feedback and support for agile development (Games et al. 2021; Tritoasmoro et al. 2024). In a developing ecosystem such as Indonesia, which is similar to South Africa, the effectiveness of the university's incubation process and its support for start-up viability after incubation need to be continuously improved (Tritoasmoro et al. 2024). Therefore, the search for an incubation management framework is a topic that is always relevant to be investigated. Exploration and search for the most suitable framework in an ecosystem is a must to increase incubation success.

Graduation can indicate that a business has made use of the resources available and can prosper on its own (Lalkaka 2006, cited in Iacono & Nagano 2017). According to Rambe (2022), graduated incubatees qualify as established rather than nascent ventures and have therefore outgrown the need for incubation. Incubators are considered to be successful when they assist their incubatees in accomplishing this objective. It should be observed that statistics regarding graduation from incubators are meaningful only if clear goals have been determined and criteria for graduation have been standardised (Eldering & Hulsink 2021; Pairsuwan 2023). However, according to Bakkali et al. (2021), the extent to which the incubation support tools work together is of

fundamental importance to the survival and growth of incubated firms after graduation.

An incubator that graduates businesses that, for example, have found other sources of funding cannot contribute to data about incubator success because such a criterion for graduation does not reflect the successful operation of the incubator (Iacono & Nagano 2017; Peters, Rice & Sundararajan 2009). In addition to graduating a significant number of businesses in proportion to its total number of clients, a successful business incubator should be able to demonstrate the continued success of graduated businesses over a specified period (Eldering & Hulsink 2021; Iacono & Nagano 2017; Pairsuwan 2023; Peters et al. 2009).

The performance of business incubation is measured by the growth and financial outcomes of the incubatee's business development stage at the point where the incubatee exits the incubator. According to Lewis, Harper-Anderson and Molnar (2011), as well as Lose et al. (2016), there are five mutually exclusive outcomes upon the conclusion of the incubation process, namely, the company ...:

1. is surviving and developing profitably.
2. is surviving and developing and is on a path towards profitability.
3. is surviving but is not developing and is not profitable, or is only marginally profitable.
4. operations were terminated while still in the incubator, but losses were minimised.
5. operations were terminated while still in the incubator, and the losses were large.

Historically, literature has suggested that the first three outcomes are indicative of post-incubation success and the last two outcomes are indicative of failure (Lewis et al. 2011; Lose et al. 2016).

However, a significant critique within the literature challenges the conventional focus on graduation rates and immediate post-exit outcomes. Scholars such as Bakkali et al. (2021) argue that true incubator efficacy is not merely a function of timely graduation but of the synergistic integration of support tools that ensure long-term venture resilience after graduation. This perspective reveals perturbation in global incubation arguments: while standardised metrics (Eldering & Hulsink 2021; Pairsuwan 2023) are favoured for their ease of comparison across ecosystems, they often fail to capture the nuanced, longitudinal journey of post-incubatees, particularly in developing contexts. This study is situated within this critical gap. By examining the Indonesian system using iterative methods such as the lean start-up approach (Games et al. 2021) within a framework that combines incubation stages with entrepreneurial value creation, this research engages with the global call for more context-specific frameworks. It moves beyond simply counting successful graduations to understand how incubation processes foster ventures that survive and thrive in challenging economic landscapes,

thereby contributing to a more nuanced understanding of incubation success beyond Western paradigms.

With the use of the business incubation theory and value creation theory, an emphasis is made on each stage of business incubation and the phases of entrepreneurial value creation to enhance and attempt to address the challenges experienced by nascent entrepreneurs in developing and growing their businesses. The two theories are explained in the following section, and the proposed interlinkages are expounded upon.

Business incubation theory

Scholars, including Ahmad (2014), Ayatse, Kwahar and Iyortsuun (2017), Bushe (2019), as well as Akpoviro, Oba-Adenuga and Akanmu (2021), contend that the failure of new initiatives during their initial stages of development is a prevalent phenomenon. The persistent expansion of business incubation services since 1980 indicates that numerous governments, local communities and private investors consider it advantageous to assist promising enterprises in circumventing failure by nurturing them until they establish self-sustaining business frameworks (Hackett & Dilts 2004; Iacono & Nagano 2017). However, the principal effort to systematise the literature appears to be that of Hackett and Dilts (2004) in the theory of business incubation as it clarifies how business incubators and the incubation process improve the survival prospects of nascent firms during their early development phases (Hackett & Dilts 2004; Lanham-New 2020).

An incubator is an entrepreneurial organisation that supports the innovation process by identifying and managing nascent companies with moderate potential, supplying them with developmental means during a business growth process, while reducing the costs linked with possible failure (Kibuchi 2016; Kiran & Bose 2020). Furthermore, a business incubator can be described as a facility where resources can be wisely invested in phases to reduce any market failure possibilities. Because most incubators do not take equity positions in the incubatees' businesses but depend on rental and services revenue as well as public and private grants and sponsorships, incubators are able to select and nurture ventures that have a greater likelihood of failure and reduce the possibility of failure (Iacono & Nagano 2017; Paoloni & Modaffari 2022).

According to Hackett and Dilts (2004, cited in Subrahmanya & Krishna 2021), the business incubation theory has five different, yet equally important incubation inputs, namely, idea formulation, decision to proceed, resource gathering, launching of a new business and business development. The theory delineates the anticipated outcomes upon the conclusion of the incubation process: the incubatee is thriving and achieving profitability; the incubatee is surviving and developing or progressing towards profitability; the incubatee is surviving but not expanding and is either unprofitable or only marginally profitable; the incubatee's

operations were ceased while still in the incubator, with minimised losses or the incubatee's operations were terminated while still in the incubator, resulting in substantial losses. However, it is also important to understand the entrepreneurial value creation process and subsequently how business incubators ensure that incubatees are positioned in the market with an entrepreneurial creation process.

The entrepreneurial value creation theory

The entrepreneurial value creation theory explains entrepreneurial value creation and its realisation through a venture. The entrepreneurial value creation process consists of two iterative stages: the venture formulation (Stage 1) and the venture monetisation (Stage 2) (Mishra & Zachary 2015). The theory of entrepreneurial value creation diagram by Mishra and Zachary (2015, cited in Zachary 2021), as displayed in Figure 1, outlines the two phases of the entrepreneurial process and any associated sub-processes.

In the first stage of venture formulation, the entrepreneur, driven by the entrepreneurial intention or an aspiration for entrepreneurial reward, discovers an external opportunity (or the opportunity may precede the entrepreneurial intention). The opportunity is then leveraged by the

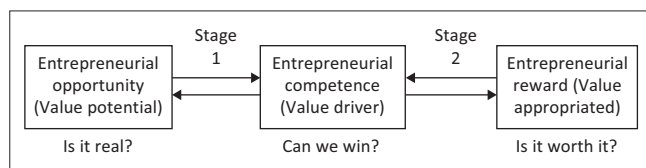
entrepreneurial resources at hand using an effectuation mechanism. The entrepreneurial opportunity is reconfigured to develop an entrepreneurial competence, an asymmetric advantage for the entrepreneur (Amit & Han 2017; Brieger et al. 2021). The entrepreneurial competence embeds the entrepreneurial resources and the reconfigured opportunity, for example, proof of concept (Mishra & Zachary 2015).

In the second stage of venture monetisation, the entrepreneur may obtain external resources, such as venture capital or strategic alliances, if necessary, and build or acquire complementary dynamic capabilities. The venture's dynamic capabilities are embedded in the business model design and reconfigure the entrepreneurial competence to sustain value creation and appropriate the entrepreneurial reward (Amit & Han 2017; Brieger et al. 2021; Indriastuti & Alifah 2017; Mishra & Zachary 2015). Therefore, the integration of the two theories can demonstrate the influence of business incubation processes on the development of entrepreneurial performance and growth.

Integration of the theory of business incubation and the value creation theory

The two theoretical lenses employed in this study, namely the business incubation theory and the entrepreneurial value creation theory, are outlined in Figure 2, detailing their main conceptions and allied attributes as well as the various constructs that will help to explain the thoughts that support the study.

As demonstrated in Figure 2, each of the two theories offers a unique focus that needs to be viewed as a whole. The business incubation theory provides a lens of the recognised inputs and outputs of the incubation process, and the entrepreneurial value creation theory provides a foundation regarding the entrepreneurship trajectory of the incubatees' ability to take



Source: Adapted from Mishra, C.S. & Zachary, R.K., 2015, 'The theory of entrepreneurship', *Entrepreneurship Research Journal* 5(4), 251–268. <https://doi.org/10.1515/erj-2015-0042>, cited in Pinelli, M., Lechner, C., Kraus, S. & Liguori, E., 2022, 'Entrepreneurial value creation: Conceptualizing an exchange-based view of entrepreneurship', *Journal of Small Business and Enterprise Development* 29(2), 261–278. <https://doi.org/10.1108/JSBED-04-2021-0155>

FIGURE 1: Entrepreneurial value creation.

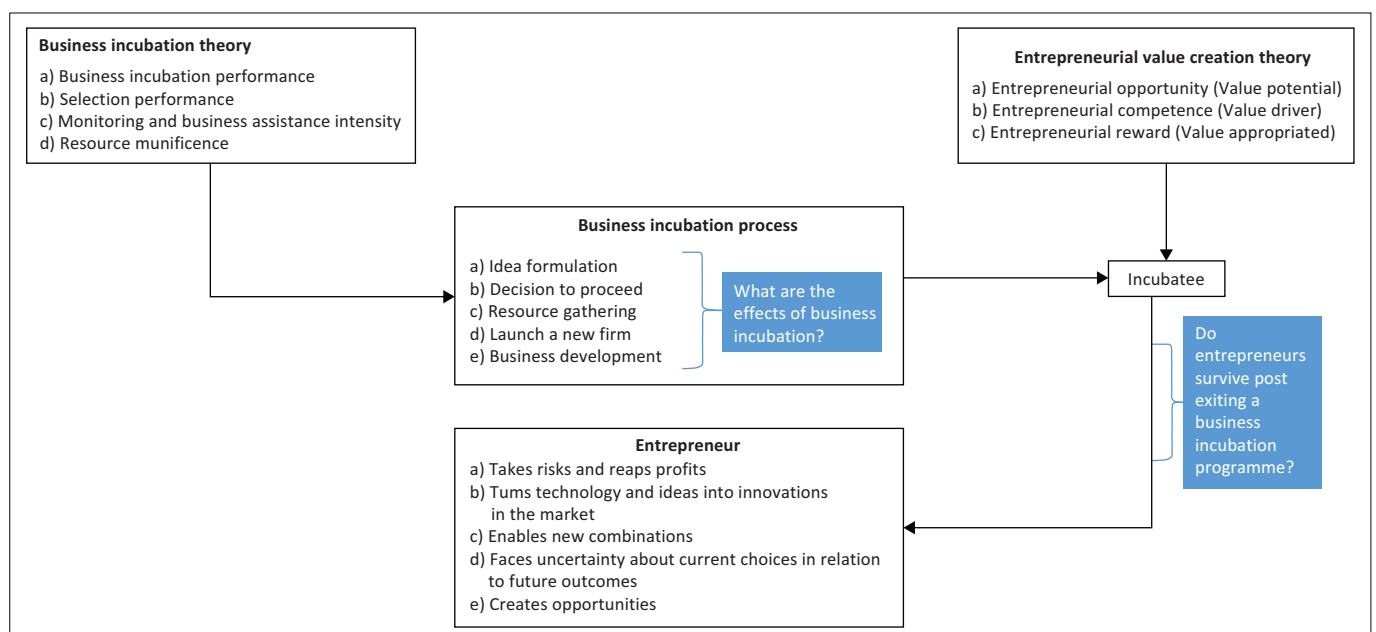


FIGURE 2: Integration of theoretical lenses.

risks and reap the benefits after exiting or graduating from the programme. The integration of the two theories aims to provide a solid foundation for a better understanding of incubation and entrepreneurial processes.

The theory of business incubation informs the analysis of the stages of incubation in the study. The entrepreneurial value creation theory will further analyse survival mechanisms of the entrepreneur in relation to entrepreneurial opportunity, entrepreneurial competence and entrepreneurial reward. The business incubation theory is significant as it offers a lens to emphasise exploration orientations, rather than merely providing a description of the incubation process (Lanham-New 2020). The theory elucidates concerns about comprehending the incubation operations. Figure 2 unpacks the concepts of business incubation and the specific linkages regarding business survival after exiting an incubation programme. Figure 2 further demonstrates the integration of the theoretical lenses of the study.

Research methods and design

The data presented in this article form part of a larger study. A qualitative, inductive methodology was used in the case study research design as it offered the researcher the opportunity to gain a deeper understanding of the role played by business incubators and their ability to enable small business growth and sustainability. The case study research design is based on a phenomenon that is investigated deeply in its real context (Meşe & Sevilen 2021) and was selected on the basis that the two sample business incubators in Gauteng are a representation of high-technology generation of business incubators in the mining and innovation sectors.

According to the Department of Trade, Industry and Competition (2024:44), South Africa has 105 incubators. From these, 40% of the incubators are established through a partnership between the Small Enterprise Development Agency, the private sector, parastatals and government agencies. A total of 36% are established through an Incubation Support Programme (ISP), which is an initiative by the Department of Trade, Industry and Competition. It should be observed that 24% of incubators in South Africa are private

business incubators that have been established without state funding (DTIC 2024:11). About 75% of all incubators are in Gauteng, the Eastern Cape, KwaZulu-Natal and the Western Cape. Only a few incubators exist in other provinces. In terms of sector distribution, most incubators focus on manufacturing (26%), agriculture (20%), construction (12%), multi-sector (11%) and those serving information and communication technologies (ICTs) (DTIC 2024:11).

The demographic breakdown of participants is detailed in Table 1. The population for this study was Gauteng-based entrepreneurs who have graduated or exited business incubation programmes, as well as incubation managers, mentors and programme developers. The sample designated for this investigation is categorised into two groups. The first group comprised entrepreneurs who went through an incubation programme and have exited or graduated from the programme. The second group were programme or incubation managers, mentors/coaches and programme developers. The entrepreneurs interviewed needed to have exited or graduated from the business incubation programme at least 3 months prior to participating in the study, as this allowed the researcher to have a sense of the degree of Total Early-Stage Entrepreneurial Activity (ETA), which is regarded as the percentage of adults (aged 18–64 years) who are starting or running a new business. Having the two groups allowed the researcher to obtain a better understanding of the incubation eco-system and its influence on survival mechanisms or dynamics faced by entrepreneurs after exiting or graduating from a business incubation programme.

The qualitative data were gathered from interviews with participants who satisfied the selection criteria. The data on the number and details of post-graduated incubatees were sourced from two operational incubators, one in the southern part of the Gauteng province and the other on the northern side of the province. However, the business incubator in the northern part of the Gauteng province is classified as an innovation hub that houses five types of business incubators in different technology-based industries. The incubator in the southern part of Gauteng has three sites focusing on mining,

TABLE 1: Demographic data of post-incubatees interviewed.

Participant	Incubation programme	Industry	Years post-incubation
01	Programme A	Mining and construction	5
02	Programme A	Engineering services	3
03	Programme A	Engineering services and consulting	3
04	Programme B	ICT	4
05	Programme A	Construction and manufacturing	2
06	Programme B	Green-energy	4
07	Programme A	Construction	3
08	Programme B	Manufacturing	3
09	Programme B	Manufacturing	3
10	Programme A	Construction	3

ICT, Information and communication technology.

TABLE 2: Profile of participants for focus group sessions.

Focus group session	Participant	Line of specialisation
Group 1	Participant 1FG	Business incubation manager
	Participant 2FG	Business mentor/Coach
	Participant 3FG	Business incubation manager/Programme developer
	Participant 4FG	Business incubation manager/Mentor
	Participant 5FG	Mentor/Coach/Industry specialist
Focus group 2	Participant 1FG	Incubation manager/Mentor
	Participant 2FG	Mentor/Coach
	Participant 3FG	Incubation manager/Programme developer
	Participant 4FG	Programme manager
	Participant 5FG	Programme manager/Mentor
Focus group 3	Participant 6FG	Programme manager/Coach
	Participant 1FG	Section manager
	Participant 2FG	Incubation manager
	Participant 3FG	Section manager

beneficiation and processing industries. Location was limited to incubators in the Gauteng province. The profile of participants for focus group sections is detailed in Table 2. Permission was sourced in the form of a letter to the incubation manager to gain access to their list of graduated or exited incubatees. Signed gatekeeper letters were received from both business incubators. The researcher was also afforded an opportunity to present the purpose of her study to the management of both business incubators before gatekeeper letters were issued. Both business incubators first contacted the participants to seek their permission before interviews were scheduled with the researcher. The demographics of the post-incubatees that were interviewed and focus group members are as follows:

All research studies present several ethical and moral dilemmas, which must be identified and addressed prior to carrying out any research study to protect all participants from potential harm (Maciak, Pešta & Vitali 2019). In this study, the researcher obtained consent from pertinent stakeholders, including incubation managers, policy developers and former incubatees, while ensuring the confidentiality of the information provided by respondents, who were not required to disclose their names. As this research study involved the use of human participants, the researcher needed to seek ethical approval from an ethics committee (Saunders & Townsend 2016; Xu et al. 2020) at the University of South Africa, which was issued by the university.

Audio-recorded interviews were transcribed verbatim. The researcher utilised Colaizzi's (1978, cited in Praveena & Sasikumar 2021) seven-step approach to descriptive data analysis in analysing the transcripts. Once each of the interviews had been transcribed, the researcher uploaded the transcripts onto ATLAS.ti. Upon transcription, the data were kept in password-protected files with restricted access on an external hard drive, accessible solely to the researcher. Privacy and confidentiality were maintained, all findings were presented impartially, and no personal or identifiable information was documented or published in the study. The moralities of the *Protection of Personal Information Act (POPIA) of 2020* were applied. The researcher used member checking to ensure that only what the participants had given consent to was used (a procedure of consent), which enabled the researcher to renegotiate features of the consent form derived from the changing description of inquiry (Hatch 2023) as required. Given that the interviews and focus group sessions were conducted using Microsoft Teams, the researcher provided access to the interview transcript to all participants to review and correct. Procedures for dependability include maintenance of an audit trail of process logs and peer-debriefings with a colleague (Cronin 2018). Process logs are researcher notes of all activities that happen during the study and decisions about aspects of the study, such as whom to interview and what to observe (Poedjastutie 2021). The researcher kept a process log and had frequent debriefing meetings with the study supervisor. Qualitative researchers keep detailed notes of all their decisions and their analysis as it progresses. In some studies, a colleague reviews these

notes; in other studies, they may be discussed in peer-debriefing sessions with a respected qualitative researcher (Cronin 2018). These discussions prevent biases from only one person's perspective on the research (Nazar et al. 2022). To prevent bias, the researcher kept detailed notes of the discussions and their analysis as the research progressed.

Content analysis, constant comparison and pattern matching were used to analyse both the interview and focus group data. Researchers employing qualitative methodology that fail to do so do little to encourage theory development or progress current knowledge and understanding (Tracy 2024). Interview quotes were used to support the findings presented, to provide further transparency for the interpretations made, and to give the reader a window into the voices of the participants and a feeling for how they expressed themselves. To ensure confidentiality, each participant had been identified with a fictitious given name or pseudonym. Individual incubators are also anonymised using the labels Incubator A, B or C consistently throughout. Where quotations of the researcher's ethnographic field notes are referred to, this is evidently indicated in the text. This was followed by deliberations on data analysis.

Fundamentally, analysing qualitative data entails coding, which refers to categorising units of data into clusters that are internally coherent and that are conceptually distinct from one another. These categories ultimately become the concepts, the relationships and the proposed explanations for relationships that form the foundation for theory building.

To explore whether incubators equip incubatees with sufficient resources for continued existence in the market post-incubation, the main themes were identified from the data analysis process. In grouping the themes that emerged, the researcher grouped those using keywords as presented in the two research theories presented in the study, which are the business incubation theory and the entrepreneurial value creation theory. The most discussed theme emerging from interviews with post-incubatees is entrepreneurial opportunity, where the post-incubatees mostly spoke about the availability of resources and opportunities. The second theme was entrepreneurial competence, where most post-incubatees indicated their knowledge of markets and the barriers experienced. The third identified theme was entrepreneurial reward; post-incubatees indicated their growth, decline and survival methods.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of South Africa College of Economic and Management Sciences Research Ethics Committee (No. Ref. 2154).

Results

The results of the conceptual and empirical research led to the following themes:

Theme 1. Implications of the theme: Entrepreneurial opportunity

Research by Lepak, Smith and Taylor (2007), Hughes, Ireland and Morgan (2007), as well as Gartner (1985 cited in Nair & Blomquist 2020), strives to consider business incubation from a value or opportunity creation perspective. The basic function of incubation is to help create value for new ventures and their stakeholders, described by three different levels of analysis to value creation (when, why and how). The understanding of entrepreneurial opportunity became clear and was confirmed in the discussions with post-incubatees, where the entrepreneurial value creation theory indicates that, in the first stage of venture formulation, the entrepreneur, driven by the entrepreneurial intention or an aspiration for entrepreneurial reward, discovers an external opportunity (or the opportunity may precede the entrepreneurial intention).

Interviews conducted with post-incubatees confirmed the literature by Nair and Blomquist (2020:34) regarding the incubation offerings, that 'the basic function of incubation is to help create value for new ventures':

'During the prototype development phase, that was the time I met Incubation B and, they incubated me and then they helped with workshops, space and the development of a prototype.' (Participant 4, Programme B, ICT, 4 years)

'It's definitely worth it being incubatees and having a mentor. It really opens a lot of doors for you and makes you think about things that you did not know and being mentored through incubator B.' (Participant 7, Programme A, Construction, 3 years)

'But I also gained an understanding of industry compliance and the use of finances.' (Participant 2, Programme A, Engineering services, 3 years)

'So, like when we had those online meetings and SARS [South African Revenue Service] would come in and explain stuff and provide the necessary tools for understanding tax matters.' (Participant 3, Programme A, Engineering services and consulting, 3 years)

'I have been taught to understand legal documents and how to draft contracts.' (Participant 2, Programme A, Engineering services, 3 years)

'But the other thing is, we had an accountant, so the accountant was there at the initial stages.' (Participant 3, Programme A, Engineering services and consulting, 3 years)

Interviews indicated that the entrepreneur entered a business incubation space with a business idea that required enhancement and support; the opportunity was, therefore, leveraged by the entrepreneurial resources on hand using an effectuation mechanism. The core of why business incubators exist relates to reducing business failure inherent in starting a new business (Millette, Hull & Williams 2020). Participant 1FG from the third focus group session with incubation managers said: 'From a monitoring and evaluation department, we hold monthly and weekly meetings with our current incubatees to identify areas of improvement and

assistance'. Other focus group participants alluded to the same aspect:

'We help them with Compensation for Occupational Injuries and Diseases [COID] reassessments and registration. It is done annually. So, since we like did, we started with them from the beginning. We understand their highs and lows in terms of their businesses and how they need to do their declaration annually.' (Participant 2FG of the third focus group)

Therefore, the implications of the theme on entrepreneurial opportunity led to the following finding: Nascent entrepreneurs seek the assistance of incubators during the opportunity identification and idea formulation phases of business development.

Theme 2. Implications of the theme: Entrepreneurial competence

The decision to proceed to the phase and resource gathering stages of the incubation process was linked to the entrepreneurial competence phase of the entrepreneurial value creation theory. Entrepreneurial competence, as per the theory of entrepreneurial value creation, focuses more on the circles of dispositional traits, motives, characteristic adaptations, observable skills and behaviours (Schneider & Alborno 2018). Based on the empirical study conducted in this research, a linkage between the second and third phases (decision to proceed and resource gathering) of the business incubation process and the creation of entrepreneurial competencies, as alluded to in the theory of entrepreneurial value creation, was established.

According to the data gathered from interviews, focus groups and literature, entrepreneurial opportunity is reconfigured to develop an entrepreneurial competence. Therefore, an asymmetric advantage for the entrepreneur and the entrepreneurial resources gained by post-incubatees were evident in innovation and prototype development spaces, although the resources acquired were not always in a monetary format, as specified by Participant 7: 'Those lessons are very important for an entrepreneur because some people are not well educated on business. But when you get those lessons, they go a long way'. Participant 4 further gave a description of the observable skills and support received:

'There are so many things that the incubator helped with, their business development process was of great help, and they also assisted to develop my business plan ..., they provided financial training, market research workshops, ...' (Participant 4, Programme B, ICT, 4 years)

Focus group sessions conducted with incubation managers for this study confirmed the approach in the sense that assessments are administered to understand the potential incubatee's business stage before they can be incubated. Participant 1FG of the second focus group session explained:

'As an incubator, our normal recruitment process requires the company to be registered and have a potential viable product or idea, but there's also another way, which is through our accelerator programme.' (Participant 1FG)

Participant 1FG of the first focus group alluded to the fact that they categorise their new entrants, she said:

'The boarding of new incubatees takes place after they have completed the four to five documents. With the documents we establish whether they are a category A or B. A category A is a classified a micro enterprise with minimal experience and less market know-how. A category B is a company that has been running but struggling to be market compliant.' (Participant 1FG)

Aspects of creating an entrepreneurial competency were clearly infused by the business incubation process through a monitoring and business assistance intensity approach, as per the business incubation theory, which included skills development approaches that would be gained through business mentoring and market positioning. Furthermore, the results of the study indicated that there is still a lack of support systems, tracking mechanisms and proper monitoring systems to deal with mentorship in an incubator setting.

The lack of business performance tracking systems was also confirmed through interviews held with post-incubatees and through focus group sessions held with incubation practitioners and programme developers in this study. Therefore, an assumption can be made that monitoring and evaluation might be an omitted phase in both the business incubation process and the entrepreneurial value creation process. Post-incubatees have indicated that they have no systems to track their growth trajectory in terms of their number of employees, contracts for the provision of goods and services, turnover and management of accounts. Participant 5 explained: 'Bank statements are the only thing we use as management accounts. But I also check the number on users on our business platform'. Participant 3 elaborated: 'We do not have a system that shows that we're doing well or not as yet in the future, we definitely will have to have something like that'.

The incubators also indicated that they have no systems in place to track the performance of nascent businesses that have graduated from their business incubation processes. Participant 2FG of the second focus group expounded: 'Right now, we do have that system for the ones within the system and not for those that graduated from the programme'. Participant 5FG indicated:

'After incubatees graduate from the incubation programme and we do keep in touch with them to ensure that they know how to be sustainable, it is something we still have not, in my opinion, fine-tuned entirely, but we keep the tenants open because we have an eco-system that involves stakeholders, suppliers, the network is very unique and us, as mentors and managers of the programme answer to stakeholders who are board members as well.' (Participant 5FG)

The implications of the theme on entrepreneurial competence led to the following findings:

- The provision of a structured business incubation, mentoring, and coaching approach enhanced the

incubatees' business development skills and the confidence to position themselves in the market.

- Post-incubatees lack business monitoring systems to record and measure the performance of their enterprises.
- Business incubators lack systems to track the performance of post-incubatees' businesses.

Theme 3. Implications of the theme: Entrepreneurial reward

Under the theme of entrepreneurial reward, the launching of a firm from the business incubation theory created a link with the entrepreneurial reward phase of the entrepreneurial value creation theory. Once relevant resources have been gathered and an element of entrepreneurial competence is achieved, the incubatee should be in the last phase of the incubation process, which leads to the launching of a firm, resulting in the graduation from the incubation process.

Entrepreneurial reward was further confirmed through interviews with post-incubatees, who indicated that their businesses are surviving and growing and are on a path towards profitability. Participant 7 explained:

'Definitely I would say I am only experiencing some marginal profitability because there were no losses that I actually incurred by associating myself with the incubator. I now have, additional business contracts and additional revenue, obviously.' (Participant 7, Programme A, Construction, 3 years)

Entrepreneurial reward was further alluded to by Participant 5: 'I managed to employ about five employees so far and we still need more staff because there's a lot to do on the platform'. Participant 6:

'Here in South Africa and Africa as a whole, if you go to our social page, you will find our mission statement in our vision statement in our mission statement does state that it is a South African social network that aims to bring businesses together, governments and all from all over the world.' (Participant 6, Programme B, Green-energy, 4 years)

Focus group sessions with business incubation practitioners confirmed the linkage of launching a firm and entrepreneurial rewards, as they follow a systematic approach in the graduation of post-incubatees. Participant 1FG of the second focus group said:

'So, we distinguish between exiting and graduating incubatees. Our goal is to graduate the companies that means they have successfully completed the programme and that they can stand alone in the big world by themselves, without the support of an incubator, whereas exiting is normally a case where, for various reasons, the incubator or the entrepreneur have parted ways. So, that means they have not successfully completed the incubation programme. It can be for a variety of reasons, sometimes the entrepreneur is no longer interested in their project, or they have full time employed somewhere else or non-performance.' (Participant 1FG)

Participant 6FG further said:

'We have bookkeepers that would then do the books for the companies and then we review it as well ... to make sure

that there's no biasness in in us graduating companies, but they have actually achieved what they should have achieved.' (Participant 6FG)

Implications of the theme of entrepreneurial reward led to the following finding: Despite the many challenges that post-incubatees face outside an incubation programme, they have marginally managed to find ways of ensuring the continued existence of their businesses. Therefore, the linkage between graduating from a business incubation process and entrepreneurial reward indicates that post-incubatees' businesses are surviving but do not earn sufficient profits.

From the research findings, entrepreneurial competence was gained through entrepreneurial opportunity and market positioning. Post-incubatees have indicated that they have benefited from being in the same space as other incubatees, as this created a platform for internal networks. Participant 7 indicated:

'The networking that actually assisted was internal because then I will network with other incubatees, if I see anyone maybe in the business that I can maybe talk to and then I will actually talk to them privately, but not like we were part of facilitated processes of those linkages.' (Participant 7, Programme A, Construction, 3 years)

In contrast, some post-incubatees have indicated that they are currently struggling to penetrate key markets because of the high costs of networking and access to markets and product commercialisation.

Furthermore, incubation practitioners in focus group sessions indicated that stakeholder support is strong, where incubators have indicated that they align their incubatees to the services and market opportunities presented by their stakeholders and the market at large. Programme implementers indicated a high level of intensity in the creation of an ecosystem with key stakeholders. Participant 4FG of the first focus group session indicated:

'... unique to Incubator A is that the stakeholders that we have in our eco-system are also board members of the incubation programme and part of the agreement we have MOUs with them, is to ensure that they get exposed to procurement opportunities.' (Participant 4FG)

Thus, the element of post-business incubation aftercare support is introduced as indicated by focus group members.

Regardless of the size of the venture, entrepreneurs require several skills to make a success of these ventures; among others, technical skills are important. Technical skills are defined as the ability to use knowledge with techniques, such as the knowledge of accountancy, engineering and communication (eds. Smit et al. 2011). The researcher's viewpoint is that business management skills also include access to markets and leadership skills, such as planning, organising and distribution of resources. Therefore, these notable skills have a common influence in facilitating

entrepreneurial skills and activities. The role of a business incubator in nurturing SMEs is crucial for business development and sustainability. The importance of entrepreneurial competence development to entrepreneurial action is well established. Research suggests that competence reflects the ability to effectively interact with the environment (Kemp 2013).

Based on the literature review and the empirical research findings, which were based on an investigation of the influence of the business incubation process, an opportunity was created to develop a conceptual framework that presents a process flow of support to be granted to incubatees during a business incubation process, which further leads to an enhanced framework for support and tracking post-business incubation. The frameworks (Figure 3 and Figure 4) were developed on the premise of integrating both the phases of the incubation theory (inputs) and the outputs presented by the entrepreneurial value creation theory. Figure 3 indicates the lenses of the business incubation theory and the entrepreneurial value creation theory, which present the inputs and outputs provided by the incubator during a business incubation process.

In Figure 3, the nascent entrepreneur, being an incubatee in this case, can be assessed and guided through the first phase of the idea formulation process to realise entrepreneurial opportunity. The second stage (decision to proceed) of an input process entails the decision to proceed in the assessment of product or service viability. This stage is where intense mentoring and coaching take place (mentoring assistance intensity). The output of the second stage will be seen in the entrepreneurial competencies of the incubatee, with the assistance of the programme implementer, to venture into the market or the ability of the incubatee to sell and market his or her invention.

The third stage of the incubation process should be the resource gathering process, where the incubator assists the incubatee with the resources required to secure a space in the market. This can take the shape of linking the incubatee with financial institutions or stakeholders that can assist with capital resources required for running a business – this process, through the lens of entrepreneurial value creation theory, should lead to entrepreneurial competence. During this stage, the incubatee should have confidence in the resources at hand to successfully venture into the market. Through the lenses of the business incubation theory, the fourth stage should entail a process of solidifying all inputs provided in a business incubation process. Thus, the incubatee's business should have gone through all the stages of incubation and his or her business should be ready to launch or stand on its own in the market.

The business should comply with the industry and sector regulations and standards. The incubator should assist with creating a space for the incubatee's business to be noticed

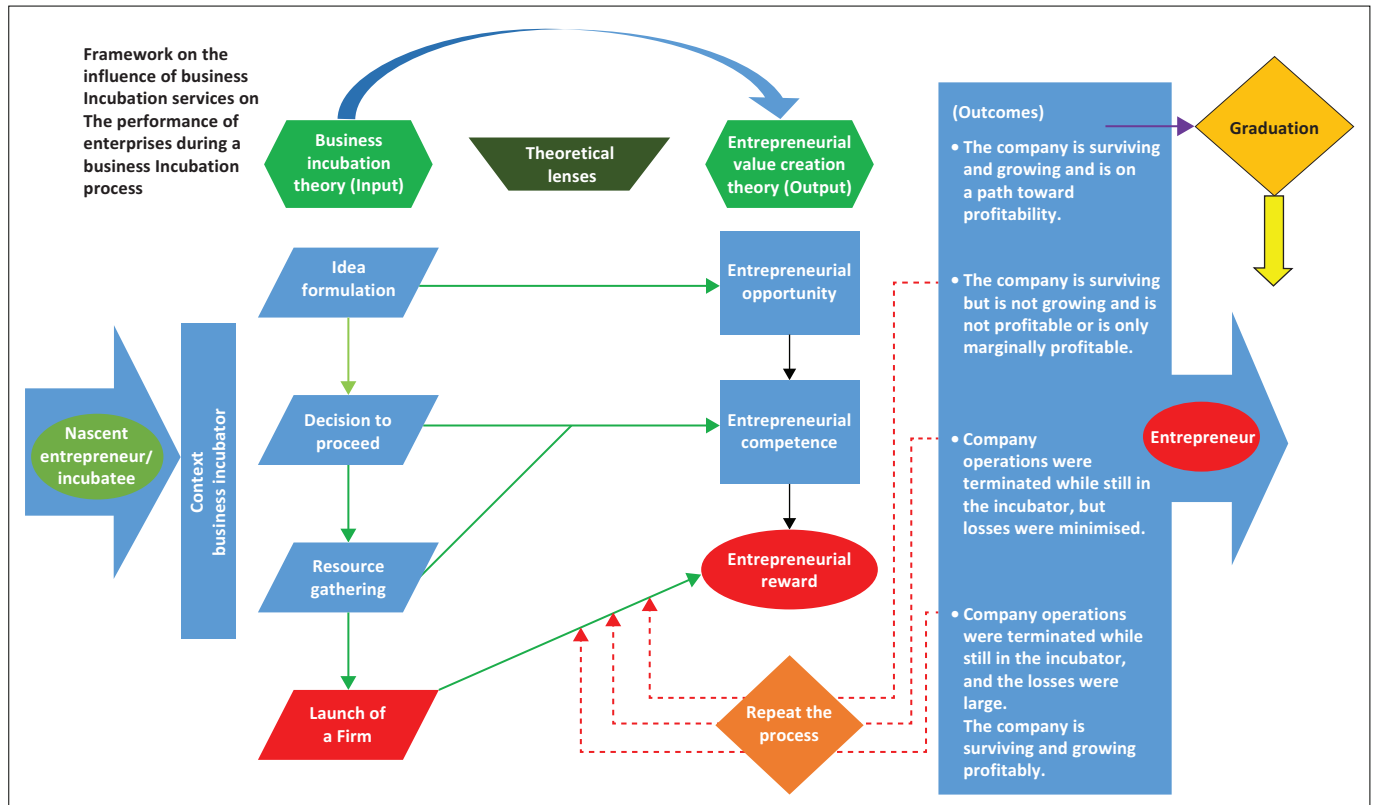


FIGURE 3: Framework on the influence of business incubation services on the performance of enterprises during a business incubation process.

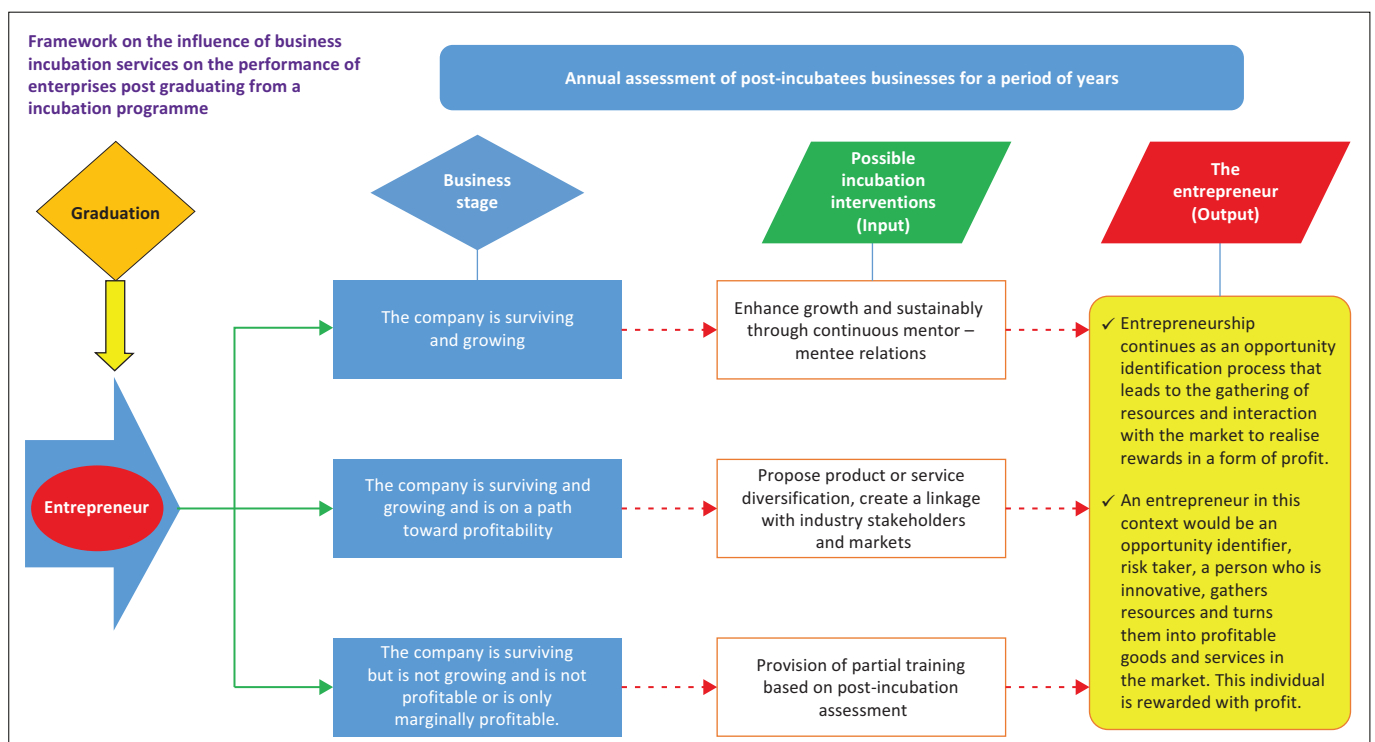


FIGURE 4: Framework on the influence of business incubation services on the performance of enterprises post graduating from a business incubation process.

(e.g. taking the incubatee to business exhibitions, assisting with the creation of a social media page or website and advertising the incubatee's business on the incubator's webpage and all other relevant communication platforms with stakeholders). The input (idea formulation, decision to

proceed and resource gathering) and output (entrepreneurial opportunity and entrepreneurial competence) process should lead to a stage where entrepreneurial value creation is realised, and the incubatee will reap entrepreneurial rewards in the form of increased business contracts, profit and an

increase in the number of employees. The use of integrated lenses of the business incubation theory and the entrepreneurial value creation theory should lead to the following results:

- The company is surviving and growing profitably
- The company is surviving and growing and is on a path towards profitability.

The input and output process can take anything between 2 years and 3 years. However, the incubator can repeat the input and output process for an additional period to enhance the incubatee's chances of surviving in the market should the incubatee's business be experiencing the following:

- The company is surviving but is not growing and is not profitable or is only marginally profitable
- Company's operations were terminated while still in the incubator, but losses were minimised
- Company's operations were terminated while still in the incubator, and the losses were large.

Once the incubatee graduates from the business incubation programme, it is important that the incubator continues to measure its impact and to address any shortcomings that the post-incubatee might be experiencing in the market. This process can form part of a business incubation aftercare programme. Figure 4 proposes a framework for post-business incubation assessment. This will serve as a second phase of assessing the influence of business incubation services on the performance of enterprises, following the framework proposed in Figure 3. After business incubation graduation, on an annual basis, the incubator, through its mentoring and evaluation process, can assess its impact on the post-incubatee's business using the staged approach set out as follows:

- Should the post-incubatee's business be at a stage where it is surviving and growing profitably, the incubator can continue to enhance growth and sustainability through continuous mentor-mentee relations.
- Should the post-incubatee's business be surviving and growing and is on a path towards profitability, as part of an aftercare programme, the incubator may propose product or service diversification and/or create additional market linkages with domestic or international stakeholders.
- Should the post-incubatee's business be at a stage where it is surviving but is not growing and is not profitable, or is only marginally profitable, incubation practitioners can propose partial training and development based on a needs assessment conducted and can propose an alternative business approach.

By following the framework, the incubator can ensure that the entrepreneurship development for the post-incubatee should continue to be an opportunity identification process that leads to the gathering of resources and interaction with the market to realise rewards in the form of profit. An entrepreneur, in this context, would be an opportunity

identifier, a risk taker, a person who is innovative, gathers resources and turns them into profitable goods and services in the market. This individual is rewarded with profit.

Conclusion and recommendations

In exploring the influence of business incubation processes in the development of entrepreneurial performance and growth of post-incubatees, the theory of business incubation and the entrepreneurial value creation theory were utilised. The use of the two literature theories guided the literature review process and the collection of empirical data. The theoretical and empirical data collected indicated that the process of business incubation has led to entrepreneurial value creation, as, currently, post-incubatees are able to take risks and have turned their technological innovations and ideas into viable products and services. A distinguishing feature of the data gathered is that nascent businesses came into the business incubation process as only registered businesses without a clear business marketing approach.

The key character trait that entrepreneurs had before entering a business incubation programme is that they all had an innovative idea that needed to be enhanced and developed into a viable business product or service. Learnings concerning idea formulation and decisions of whether to proceed or not were imparted. Resource gathering strategies were introduced and incubatees were introduced to the market.

The results of an entrepreneurial value chain creation process are evident because all post-incubatees have businesses that are operational, and some have penetrated international markets and have employees. However, the research study presented shortcomings in the sense that there was no clear alignment between the inputs of the business's incubation process and the output segments of the entrepreneurial value chain processes. This identified theoretical and practical gap led to the development of a framework (Figure 3) highlighting the process flow of support to be granted to incubatees during a business incubation process, and a second framework was developed for enhanced support and tracking of businesses post-business incubation (Figure 4).

The research concludes that business incubation is a vital and effective tool for nurturing early-stage ventures, but its full potential is unrealised without systems to ensure and measure sustainable success long after a venture has graduated. Business incubators are effective at the early stages of venture development. They successfully assist nascent entrepreneurs during the opportunity identification and idea formulation phases by providing essential resources, mentorship, and skills development, thereby enhancing entrepreneurial competence. Consequently, this study proposed a framework designed to extend this support and embed mechanisms for tracking venture progress well beyond the point of graduation. The current

measure of incubator success is incomplete. While incubators are proficient at guiding businesses to graduation, the system largely fails to track their performance afterwards. Therefore, graduation is an output, but not a definitive measure of long-term outcome or impact. True efficacy must be measured by sustained growth and survival post-incubation.

The link between incubation and long-term entrepreneurial reward is weakened by a lack of aftercare. Despite gaining competence, post-incubatees face significant challenges in market penetration and lack the systems to measure their own growth. Similarly, incubators lack the mechanisms to provide continued, albeit lighter, support or to gather data on their alumni's performance. A fundamental shift in the incubation model is required. For incubation to truly fulfil its purpose of reducing business failure and creating value, it must integrate structured post-incubation support and monitoring into its core framework. The proposed conceptual model, which merges incubation processes with value creation phases and adds tracking mechanisms, is presented as a necessary evolution for enhancing the sustainability of incubated ventures.

The study provided an analysis of a sample size from the Gauteng province; however, a broader national scale assessment is required to create a national exploration of the influence of business incubators on the survival of businesses after graduating from a business incubation process. It is recommended that future research studies focused on business incubation support should adopt a mixed methods methodology where quantitative data are utilised to empirically measure the incubation process's impact on the performance of post-incubated businesses as part of a performance assessment process of an incubation programme. Future studies may also focus on what the structured business incubation mentoring and coaching approach required by incubatees needs to comprise.

Acknowledgements

The authors would like to acknowledge the helpful suggestions and discussions with Prof Anthea Amadi-Echendu as supervisor and Prof Sugandren Naidoo as co-supervisor of his master's studies at the University of South Africa.

This article is partially based on the author, Lesego Serwadi's PhD thesis entitled 'A Gauteng Province-Based Case Study to Explore the Influence of Business Incubation Process on Entrepreneurial Performance and Growth Post Incubation', towards the degree of Doctor in Philosophy in the Department of Applied Management, University of South Africa, South Africa, with supervisor Anthea Amadi-Echendu and co-supervisor Cine van Zyl.

Competing interests

The author reported that they received funding from the University of South Africa, which may be affected by the

research reported in the enclosed publication. The author has disclosed those interests fully and has implemented an approved plan for managing any potential conflicts arising from their involvement. The terms of these funding arrangements have been reviewed and approved by the affiliated university in accordance with its policy on objectivity in research.

CRediT authorship contribution

Lesego Coretta Serwadi: Conceptualisation, Data curation, Formal analysis, Writing – original draft. Anthea Amadi-Echendu: Supervision, Writing – review & editing. Cine van Zyl: Supervision, Writing – review & editing. All authors reviewed the article, contributed to the discussion of results, approved the final version for submission and publication, and take responsibility for the integrity of its findings.

Funding information

This work was supported by the University of South Africa.

Data availability

The data that support the findings of this study are available from the corresponding author, Anthea Amadi-Echendu, upon reasonable request.

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