



<https://ijecm.co.uk/>

# EXTERNAL ENVIRONMENT AND BUSINESS INCUBATOR SERVICES: A FRAMEWORK FOR NEW VENTURE CREATION IN UNIVERSITIES IN KENYA

**Beatrice Karitu** 

School of Business, Economics & Tourism, Kenyatta University, Kenya

ORCID ID: <https://orcid.org/0000-0001-9696-8400>

[karitu.beatrice@ku.ac.ke](mailto:karitu.beatrice@ku.ac.ke)

**Stephen Muathe**

School of Business, Economics & Tourism, Kenyatta University, Kenya

ORCID ID: <https://orcid.org/0000-0001-8192-5774>

[muathe.stephen@ku.ac.ke](mailto:muathe.stephen@ku.ac.ke)

**Evans Mwasiaji**

Department of Business Administration,

School of Business, Economics & Tourism, Kenyatta University, Kenya

ORCID ID: <https://orcid.org/0000-0003-4009-928X>

[mwasiaji.evans@ku.ac.ke](mailto:mwasiaji.evans@ku.ac.ke)

## Abstract

*New ventures result from innovation and change, but despite numerous success stories, many new ventures fail before they reach their full potential. Business incubators play a vital role in fostering and growing new businesses, lowering the rate of early-stage business failure. Incubators are most valuable when they can respond and adapt to the needs of new business by providing wide range of services that supports start-ups. The field of business incubator services and new venture formation is understudied, despite the fact that there are an increasing number of business incubation facilities. The study investigated the effects of network services, ICT infrastructure, training and access to financial resources on new venture*



*creation in universities in Kenya. The study further established the moderating effect of external environment on the relationship between business incubator services and new venture creation in universities in Kenya. The study was anchored on Schumpeter's Theory, the Resource-based View, and the Dynamic Capability View Theory. The study used both descriptive and explanatory research designs. The target population was eight business incubators drawn from eight selected universities which are located in Nairobi region in Kenya. A sample size of 136 participants from a target population of 205 was drawn using stratified and simple random sampling technique. Questionnaires were used to collect data. Multiple linear regression analysis was used to test hypotheses. The study finding revealed that network services, ICT infrastructure, training and access to financial resources had a positive and significant effect on new venture creation in universities in Kenya. Additionally, external environment had moderating effect, on the relationship between business incubator services and new venture creation in universities in Kenya. The study recommends that the top management teams should incorporate business incubator services into the university's strategic plans and allocate dedicated resources for their development.*

*Keywords: Business Incubator Services, Networking, ICT Infrastructure, Access To Finance, External Environment, New Venture Creation*

## **INTRODUCTION**

Entrepreneurship is regarded as a key generator of long-term economic progress, owing to its emphasis on competition and innovation (Drucker, 1985). Economic theories of entrepreneurship state that starting a new venture is an entrepreneur's primary contribution (Schumpeter, 1934). New ventures play a big role in the establishment of employment, investments; and they are regarded as a key industrial base for expansion and development. Entrepreneurship covers a variety of aspects of starting a new business, including concept generation, appraisal, and value production (Kimathi, 2020). Hence, the process of entrepreneurship can be viewed of as the expression of an entrepreneur's conscious and subconscious dreams, which they use to launch new companies and grow current ones (Karitu & Namusonge, 2019).

Globally startup growth and development boost economic growth and lower unemployment, they also start technological and economic changes in the country's economy through new ideas, goods, and services, as well as through the knowledge, creativity, and inventions of their members. Through innovation, institutional reform, productivity gains, and

the introduction of new goods and services to the market, they significantly contribute to regional development (Karitu, Wangondu & Muathe, 2022).

According to Egbetokun (2023), start-ups are essential in tackling poverty and unemployment in Africa. Nevertheless, the businesses have poor survival and production rates. As part of the innovation system, business incubators support the survival, growth, creativity, and productivity of businesses with room to grow. In several instances more competitive economies, business incubation has been one of the techniques used to expedite the development of new entrepreneurial abilities and enterprises. The proposed incubation process featured services for on-the-spot diagnosis and repair of business challenges, resulting in a significantly decreased early-stage fail rate. The importance of business incubators in enabling entrepreneur to explore entrepreneurial concepts cannot be overstated (Diawati & Sugesti, 2023).

Over the years, BI becomes increasingly service-based and aggressive. Beginning in the 1980s, a novel wave of BI focused mostly on infrastructure. Together with other shared services and resources, including the front office, this also comprised rented workspace. The initial generation of incubators concentrated on real estate development and employment creation. The provision of less expensive workspaces and the benefits of reduced costs that resulted from businesses uniting as a single entity benefited the enterprises (Bruneel, Ratinho, Clarysse, & Groen, 2012). The second generation of incubators emerged in the 1990s; it focused on skill development, networking and counseling (Commission, 2003). The main benefit of third generation incubators was the ability to network within the incubators; new ventures have also a better access to suppliers, investors, technology and even clients (Diawati & Sugesti, 2023).

The services offered in BI decreases start-up capital and administrative costs, allowing the entrepreneur to concentrate on his or her main business while obtaining operational assistance and hands-on mentoring. The incubator concept facilitates the user's development path, ensuring company survival and success (Qian, Mulas & Lerner, 2018). BI frequently conduct training sessions for project promoters and new established companies to ensure continuous learning on subjects related to the start-up process, financial management, marketing management, and business development (Ahmed, Qalati, Rehman, Khan & Rana, 2022).

By investing in BI, governments could produce a competitive workforce, foster innovation, and drive economic growth (Armas & Moralde, 2022). However, rigid or uneven policies might hinder the growth and profitability of university BI. Legislators ought to take the lead in developing and implementing supportive laws that will provide a favorable atmosphere for BI education that will eventually spur creativity, economic expansion, and socioeconomic

growth in Indonesia (Gozali, Masrom, Zagloel, Haron, Garza-Reyes, Tjahjono & Anne, 2020); Wahyuningtyas *et al*, 2021).

The purpose of building BI in South Africa is to offer start-up companies support services. It also serves to address normal business problems such as financial understanding, renting space, people resources, and accessibility to markets and entrepreneur skills development (Hewitt & van Rensburg, 2020). In East Africa, majority of support services given by BI in the area focused on training, networking and mentoring. Although most initiatives provide finance of some kind for involved enterprises, only a few of such businesses adopt other funding models, including mixed funding or quasi-equity (Qian, Mulas, & Lerner, 2018).

Business incubators in Kenya provide a number of essential services. These include connections to partners, access to investors, community membership, business training courses, consultancy services, administration, networking and mentoring (Konyango, 2021; Otieno and Muathe, 2023). The findings show that the services supplied by Kenyan incubators mostly address the issues of entrepreneurs such as restricted access to networking opportunities, strategic alliances with partners, and business and technical expertise (Konyango, 2021; Langat, 2022; Tiren, 2020). Furthermore, BI in Kenya serve as a community for entrepreneurs to interact, cooperate, and support one another, particularly during the early stages of developing a start-up (Hassan, 2020; Karitu & Muathe, 2023; Momanyi, Ndemo, Maalu, & Owino, 2023).

Multiple research investigations have been carried out about the establishment of new ventures. The study primarily focused on the variables, traits, and situations that encourage the formation and growth of new firms (Njau, Mwenda, & Wachira, 2019). The incubation notion is a real method of bringing together cash, knowledge, and technology to encourage an entrepreneurial spirit and, as a result, speed up growth of new companies (Diawati & Sugesti, 2023; Otieno & Muathe, 2023). The purpose of this study was to look at the impact of business incubator services and new venture creation in universities in Kenya.

### **Objectives of the Study**

The objectives were to:

- a) Determine the effect of network services on new venture creation in universities in Kenya.
- b) Analyse the effect of ICT infrastructure on new venture creation in universities in Kenya.
- c) Examine the influence of training services on new venture creation in universities in Kenya.

- d) Determine the effect of access to financial resources on new venture creation in universities in Kenya.
- e) Examine the moderating effect of external environment on the relationship between BI services and new venture creation in universities in Kenya.

## REVIEW OF LITERATURE

A theory offers the foundation to complex occurrences and practices. Preferably, it defines current incidences while giving direction for new methods. Regarding the concerns raised in the objectives and problem statement of the study a theory is critical: it introduces the existing theories and review of literature on BI services and new venture formation.

### Theoretical Review

A theory provides the basis for intricate events and behaviors. It also characterizes present occurrences while providing guidance for novel approaches. This part covers the theoretical underpinnings that serve as the framework for the remaining part of the thesis. This research was based on Schumpeter Theory of Innovation, Resource-Based View (RBV) and Dynamic Capability View.

### *Schumpeter's Theory of Innovation*

It has that company innovation is the main driver of increased output and corporate growth. By "innovation," is meant changes such as improving production and distribution procedures, enhancing entirely new produce, and changing the market, among others. Although "invention" and "innovation" are sometimes used synonymously, innovation is more specifically defined as the commercial use of new materials, technologies, processes, and energy sources (Muathe, 2010, Henrekson & Sanandaji, 2020).

Schumpeter's idea of the commercial development was criticized by Lim and Fujimoto (2020), who contended that because the theory's justifications are mostly dependent on sociological rather than economic considerations, it is difficult to evaluate the theory objectively. The reason for this was attributed to Schumpeter's Theory of the Commercial Evolution, which emphasizes sociological factors above economic ones. He further contends that other elements that can affect the volatility of corporate endeavors are overlooked by the theory. Despite these shortcomings, the theory has widely been applied in the economy (Lim & Fujimoto, 2020).

Czapinzka and Romanowski (2024) assert that BI and technology parks are essential elements of the innovation ecosystem since they make technology transfer easier, generate unique concepts, and support the growth of new enterprises. Karitu and Muathe (2023)

established that BI are useful for both generating new ventures and for fostering and developing existing ones.

Sonne (2012) cites two of the apparatus that are utilized to foster innovation: BI and venture capital. For Allah and Brathwaite (2016), the idea has been extended to the process of launching new companies since innovations are the primary cause of establishing most businesses. For the present study, Schumpeter's Theory of Innovation anchored the dependent variable (New Venture creation).

### ***Resource-Based View Theory***

The RBV succeeded in the 1980s, it was Penrose (1959) who laid the ground, she utilized the human resources in addition to the material. Beginning in the 1980s, many written works contributed to the general acceptance of the RBV views the organization as a collection of assets and skills (Barney, 1986; 1989;1991; Connor 1991). The author upheld the notion that; variety, extent, and character of a company's possessions and competencies were core factors in determining the profitability of that company.

It is improper to use the phrases "capabilities" and "resources" synonymously. Resources differ from capabilities in that they are the assets that the organization already has; a company's capabilities are its abilities (Amit & Schoemaker 1993). The company obtains its resources by utilizing a wide range of resources and connecting equipment that belong to other businesses. These comprise elements such as information systems, technology, experience, and the confidence that exists between labor and management.

Capabilities also relate the ability of an entity to allocate its resources and pursue its goals. In contrast to the usage of human resources, capabilities are built in the areas of information, development and substitution. Itami and Roehl (1987) assert that observable resources need information-based skills. Ultimately, practical area capability is the strongest indicator of competency. Providing trustworthy service, creating novel products, being adaptable in the manufacturing process, paying attention to client needs, and processing orders swiftly are cases in point.

The scholars that developed the Resource-Based Perspective came up with the circumstances in which a company's distinct assets and skills can produce a legitimate competitive edge which firm possessions and competence lead to a justifiable competitive advantage. The study by Eisenhardt and Martin (2000), found that these characteristics are referred to as value, rare, inimitability, and non-substitutability (VRIN) qualities. They advocated for the necessity of the resource's scarcity, high value, uniqueness, and irreplaceability. The availability of resources eases support for the formation of new venture and the operation of BI,

which in turn supports the ongoing growth and viability of the businesses. When they are just starting out, BI rely heavily on the resources that its owners supply. Financial resources are not directly provided; instead, they are available through a number of networks. Resources will be made available to support the establishment of new companies as well as their expansion afterward (Barney, Ketchen & Wright, 2021).

Rukmana, Meltareza, Harto, Komalasari and Harnani (2023) contend that the challenges of BI include resources, limited chances for mentoring and experience, insufficient chances for networking, institutional and legislative limitations, as well as cultural and socio-economic aspects. The findings emphasize the significance of additional variables such as resource accessibility, mentoring and subject-matter knowledge, networking possibilities, and financial help.

The notion discussed the material resources, for example, land, equipment, and materials, which are required to establish new businesses (Marshall, Meek, Swab & Markin 2020). BI exemplify the physical resources that encourage establishment of new businesses. Hence, the study was pertinent to the study because of this. Thus, the RBV Theory was used to support the independent variable.

### ***Dynamic Capability View Theory***

The Dynamic Capability View Theory (DC) was first developed by Teece and Pisano (1994). Teece, Pisano, and Shuen (1997) refined the DC to get over the limitations of the RBV. "Dynamic Capacity" (DC) is defined by Teece and Pisano (1994) as a business's capacity to build and reorganize both internal and external capabilities in order to successfully adjust to a setting that is changing quickly. Managers are encouraged by the RBV to focus on methods for discovering specific resources that the company possesses. Nevertheless, a number of issues of how companies should actually create a competitive edge are not sufficiently covered by the theory.

Eisenhardt and Martin (2000) offer a series of discrete and easily identifiable actions, including alliance building, product enhancement, and strategic decision making. They further assert that strategic procedures help businesses in dynamic markets allocate resources more wisely toward innovative, value-adding initiatives. According to Teece, *et al.*, (1997), the term "dynamic" refers to the company's willingness to refurbish its capabilities in order to realize its purpose in an environment that is very volatile in terms of business conditions. They made the point that in order for managers to thrive in the modern corporate climate, they need to be creative on how they approach new difficulties.

Eisenhardt and Martin (2000) noted that effective arrays of DC view are not the same in environments with low and high speed. When market places have a modest level of change, they conform to the processes outlined by Cyert and March (1963): they make use of the information that is already available; they are complicated, and they are all-encompassing. There are numerous cases that can serve as illustrations of the DC. These include new product creation, strategic decision making, information brokering, and the formation of alliances (Eisenhardt & Martin 2000). The results of Gimenez-Fernandez *et al.*, (2020) indicate that a new venture must rely on internal and external resources in a balanced manner to enable a company to remain competitive in a resource-constrained business climate. They noticed that the creation of new enterprises is positively impacted by the Theory.

Cai, Anokhin, Yin, and Hatfield (2016), conducted research on the environment. According to the study, environment's dynamic and environmental benevolence impact the relationships between competitive advantages and resource incorporation techniques. In the context of low environmental volatility and either high or low environmental impact, Chinese new ventures show that the two stabilizing and leading ways to resource integration have a major impact on new ventures' competitive edge.

Wang, Dai, and Gao (2022) asserted that because business environments are evolving quickly, entrepreneurs should not depend solely on conventional approaches to launch new ventures. To help them with the formation of new ventures, they ought to make use of BI. The DC View Theory was used to support the moderating variable (External environment).

## **Empirical Review**

The empirical literature on BI services and new venture creation was examined. Further, the mediating and moderating variables were explored in terms of their potential on the direct relationship linking both the predictor and the result variables. Current and previous studies on the influence of BI services and new venture creation were examined.

### ***Network Services and New Venture Creation***

The public view of the business incubator presents a network of people and institutions. This network is made up of the incubator's manager and staff, incubates and their staff, advisors, universities that are nearby, the neighborhood development companies, the business associates, and all of the amenities that the incubator provides, including marketing specialists, accountant, financiers, volunteers and lawyers (Hackett & Dilts, 2004a).

The study by Muathe and Otieno (2023), on accelerating business growth through incubator infrastructure, networking services and management mentorship: A Kenyan startup

perspective. It was found that there are significant relationship between networking, physical incubation infrastructure, and management mentoring and company success. The research was founded on social network theory, stochastic theory, and firm theory. The study employed descriptive research design, especially a cross-sectional design. Using proportionate stratified and simple random sampling approaches, a sample size of 227 participants was drawn from an entire population of 567 participants.

A systematic questionnaire was used to obtain primary data. Multiple linear regression was used to examine the data using SPSS's .The investigation was conducted on startup in Nairobi Kenya while the present study was carried out on business incubators services in selected universities in Kenya. The research conceived physical infrastructure in terms of a comfortable working environment, administrative services, and infrastructure accessibility, revealing a knowledge gap. The objective of this study was to fill in the conceptual gap by defining ICT Infrastructure in terms of computer availability, internet access, and research laboratories.

According to Kiran and Bose (2020), networking is important on performance of Technology business incubators. The indirect effect of the university infrastructure as a mediating variable is 0.54, while the immediate effect is unfavorable and insignificant, demonstrating the complete mediation of facilities. Networking and university affiliation appear as major indicators of TBI performance. The study concentrated on business incubators that operated in technology-based service, information technology, manufacturing, and agri-plus biotech industries in India. The target population consisted of 105 business incubators, yet there were very few answers of 60 participants. The PLS-SEM model was utilized to estimate the proposed measurement and structural mode. The study analyzed, the effectiveness of Technology Business Incubation focusing on networking, collaboration with universities and infrastructure. This study analysed the effect of business incubators services (networking services, ICT infrastructure, Training and access to financial resources) in universities in Kenya. *H<sub>01</sub>: Availability of network services has no significant effect on new venture creation in universities in Kenya.*

### **ICT Infrastructure and New Venture Creation**

ICT infrastructure refers to the degree to which incubation centers' hardware, software, and other IT tools are seen as appropriate and readily available for new venture creation. Some of the ICT infrastructure in incubation centres include laboratory facilities, research equipment, computers, internet and technical training (Njau, Wachira & Mwenda, 2019).

According to Gozali, Masrom, Zagloel, Heron, Garza-Reyes, Tjahjono and Anne Marie, (2020), on performance parameters for effective business incubators in Indonesian public universities. The study employed quantitative strategy, using data examined with IBM SPSS and Smart PLS versions. A number of 95 incubators manager from 19 universities in Indonesia were used as a sample. The study found that IT, partially supports business incubators performance; entry criteria and mentoring they have an effect on performance of incubators; that financial assistance improves business incubator success, having well-developed infrastructural systems acting as a moderator. The study employed good infrastructure systems as the moderating variable. However in this study, external environment was used to demonstrate the moderating influence on the association between business incubators and new venture formation in Kenyan universities.

Ruhiu (2016), found that factors such as managerial abilities, access to infrastructure, technological services, and market connections all contribute favorably to the expansion of SMEs in Kenya. Systematic random sampling method was used and 127 incubatee were selected consisting of private and public business incubators in Nairobi County. Descriptive research design was used and likert scale-based questionnaires were employed as research methods for data collecting. The study focused on business incubators in Kenya and the growth of the MSEs. The study was conducted on public and private business incubators in Nairobi County. The current study assessed the effect of business incubator services on new venture creation in selected universities in Kenya.

*H<sub>02</sub>: Availability of ICT infrastructure has no significant effect on new venture creation in universities in Kenya.*

### **Training and New Venture Creation**

Training refers to educational programmes offered to business owner that are intended to enhance effectiveness in the operations of the business for example financial, management and marketing skills among others (Aboobaker, 2020). To deliver the best results for future entrepreneurs, educators must continually adjust educational process, methodologies, and curriculum to reflect the changing business environment. The competitive higher education market offers an incentive to recruit entrepreneurs through appropriate programs that most effectively stimulate the formation of new businesses. Expectations for educational programs have altered in conjunction with the entrepreneurial environment (Kwon, 2019).

The research by Sudana, Apriyani, Suprpto and Kamis, (2019), on model of business incubator teaching business management courses to improve learner's capability. It was found that learning model is of great importance in developing entrepreneur's graduates in

the University of Negeri Semarang. Business incubator programmes should be designed and implemented to assist students with entrepreneurship competency hence lowering the level of unemployment. The methodology used was research development, which involved five phases: initial preparation on the basis of initial observation data, establishing a training model, validation test of the model, limited examination and finally model determination. The researchers were able to develop a theoretical as well as a factual model to improve the entrepreneur ability. The study was conducted on graduates in Beauty Education Programme in university of Negeri Semarang. The current study added new theoretical knowledge a new theoretical model was developed to show the relationship between business incubator services and new venture creation in universities in Kenya. The study was conducted in Kenya and it analysed the effect of business incubators services and new venture creation in universities in Kenya.

According to Hakiziman and Muathe (2023), universities may be the ideal venue to find future business owners who will be essential in building and sustaining vibrant entrepreneurial cultures across nations. The introduction of entrepreneurship education into all technical teacher preparation schools across Kenya was one of the initial steps in the country's new strategy for entrepreneurship growth. The study was based on Schumpeter's theory of innovation, the balance score card model, and, eventually, the lean start-up framework. To gather information secondary data was used hence it was a desktop review. The study discovered that it is recommended for higher education institutions' entrepreneurial programmes to include practical learning experiences oriented towards the development of abilities including self-awareness, teamwork and interpersonal skills. While the last study focused on Fintech start-ups in Kenya, this research evaluated the effect of business incubator services and new venture creation on selected universities in Kenyan. The study used secondary data, which may not be relevant, reliable and accurate while in the current study primary data was used in the investigation since it is relevant, reliable and accurate.

*H<sub>03</sub>: Availability of training services has no significant effect on new venture creation in universities in Kenya.*

### **Access to Financial Resources and New Venture Creation**

This involves providing of funds to tenant firms by the government or investors, either using direct or indirect manner, through bank loans or donations to UBI. Startups' success relies heavily on their capacity to acquire capital. Incubators help link entrepreneurs with funders and facilitate pitch sessions, providing essential financial support at vital growth stages. Incubators

provide wide financial networks that successful entrepreneurs can exploit (Wangondu & Muathe, 2023).

Villaseca, Navío-Marco, and Gimeno (2020) argued that to close the entrepreneur, it is critical to analyze women's methods for obtaining financial, among others. Numerous sources of funding for female entrepreneurs are taken into consideration through investigation of 4,520 publications on funding support issues on women enterprises which include; crowdsourcing, banks, bootstrapping, business angels, and venture capital. According to the study, the demand side as well as the supply side of the financing sector may be biased against women. The study only looked at the direct link and it did not, as in the present study, account for mediating and moderating variables. The study used desktop review research methodology which has the drawback of not being conclusive in nature. In contrast, the current study employed explanatory and descriptive research designs.

For Dvouletý, Srhoj, and Pantea (2021), grants have significant impact on the firm survival. The study analyzed the impact of governments allocating money to promote SMEs using public subsidies and grants. Review of research published from 2000 onwards that investigated on how public funds affected the performance of businesses in the 28-member European Union (EU) was conducted. It was found out that grants had a beneficial impact on organizations' ability to survive, sales, physical and capital investments, number of workers, and turnover, with various degrees of labor and total component of production. The research used an exploratory research methodology, which has the drawback of not being conclusive in nature. In this research, both an explanatory and a descriptive research approach were used. SMEs in the EU were the subject of the examination; this investigation looked at the impact of BI services and new venture creation on universities in Kenya.

The study by Mugambi (2020), found that the success of technical start-ups in Kenya was positively impacted by seed funding. Additionally, it was discovered that technical guidance helped tech start-up companies succeed, and that strategic counsel had a big impact on Kenyan digital start-ups' success. Study population of 42 accelerator personnel included representatives from each of Kenya's seven accelerators was used, 36 out of 42 respondents providing data that yielded an 85.71% response rate. The sample size of 42 employees is very small hence the results cannot be applied to the whole population henceforth creating a methodology gap. To bridge this gap, the present research utilized a wide scope of a country, focusing on BIs services in Kenyan universities.

**H<sub>04</sub>:** *Access to financial resources has no significant effect on new venture creation in universities in Kenya.*

### ***BI Services, External Environment and New Venture Creation***

Pulka, Ramli, and Mohammed (2021) assert that the success of SMEs is significantly impacted by the external environment. The study examined how the entrepreneurial mindset, skill set, network, and availability of government business aid were impacted by the external environment on the success of SMEs. To gather data the questionnaire were used. The study found that entrepreneurial skills, EO, and government assistance have a significant effect on the efficiency of SMEs. However, entrepreneurship network (EN) has no impact on the success of SMEs. The link between EN, EO and SMEs success, on the other hand, is not moderated in any way by external environment. The study has only the moderating variable but does not have the mediating variable. This study has both moderating and mediating variables.

According to Muslim, Sekamdo, and Purnomo (2024), BI constitutes one of the most significant strategies to encourage entrepreneurship and innovation in higher education. Educational laws and commercial law are two additional legal factors that are relevant to the establishment and management of these incubators. The findings illuminated the challenges and opportunities inherent in university-based BI initiatives, furnishing legislators, lawyer, higher education officials, and additional stakeholders with valuable insights. The research investigated the legal framework guiding the establishment of BI in institutions of higher learning. It investigated liability issues, contractual agreements, intellectual property rights, and regulatory compliance. A qualitative research methodology was used in this study. Purposive sampling approach was used to locate participants who have the necessary knowledge and experience with the research topic. Thematic evaluation was the primary method that was used to discover recurring themes and patterns in the papers and interview transcripts. The study is a literature review which is not empirically tested. The current study examined the impact of business incubator services on the establishment of new ventures at Kenyan universities through empirical testing.

According to the study by Umar and Arafah, (2020), improving business performance cannot be accomplished through the mediation of competitive strategy and market orientation. The study examined the relationship between market awareness, competitive tactic and company success with support government policy as an auxiliary variable. The information came from Indonesian housing developers. There were 220 people in the sample, including big, medium-sized, and small developers. The PLS method was employed in the study to demonstrate that the support government policy had no impact on the company's success. These results demonstrate the limitations of government policy as a framework for theoretical development and as an expressive facilitator. Marketing awareness and competitive tactic were employed in the current investigation as independent variables; networking services, ICT

infrastructure, training and access to financial resources was used as independent variables. The investigation was done Indonesia while this research analyzed the effect of BI services and new venture creation in universities in Kenya.

Karitu and Muathe's (2023) study examines the role of BI in Kenya as part of the new venture formation approach. BI were shown to be useful for both the establishment of new ventures and for their nurturing and growth. The survey found that most studies has ignored the internal perspective, where the entrepreneur has a major impact, in favor of concentrating mostly on the outer perspective. The study was founded on the theories of Schumpeter's Theory of Innovation, Mark Casson's Economic Theory, DC View, and BI. Desktop analysis was used in the study to analyze the literature on BI and new venture formation. The study concentrated on BI hence ignoring the services that are offered in the business incubator creating a knowledge gap. This research closed this gap by examining how new venture development is impacted by business incubator services (ICT infrastructure, training, network services, and financial resource availability). The current study employed descriptive and explanatory research strategies; the previous study used desktop research analysis. The study disregarded moderating and intervening factors in favor of direct connections. To illustrate the relationship between BI services and the new venture formation in universities in Kenya, the present investigation employed the external environment as a moderating variable and entrepreneurial orientation as a mediating variable.

*H<sub>05</sub>: External environment has no significant moderating effect on the relationship between BI services and new venture creation in universities in Kenya.*

## RESEARCH METHODOLOGY

The investigation used both descriptive and explanatory research designs (Saunders *et al.*, 2009). The target population was eight business incubators drawn from eight selected universities which are located in Nairobi region in Kenya. A sample size of 136 participants from a target population of 205 was drawn using stratified and simple random sampling technique. The unit of observation was director of incubation centres, support staff, mentors and mentees. Data was collected using self-designed questionnaires. The multiple linear regression model was used to analyse the relationship between independent and dependent variable while Baron and Kenny's (1986) model was used to examine the moderating effect of the external environment on the association between BI services and new venture creation.

## RESULTS AND DISCUSSION

### Response Rate

The study sample size was 136 respondents and the questionnaires were distributed through Google forms. A total of 91 completed and returned surveys were distributed, with a response rate of roughly 66.91%. Meanwhile, 45 questionnaires were not returned. This relatively high response rate ensures that the results are representative of the intended audience by offering a solid data set for analysis. Table 1 below presents an overview of the analysed response rate.

Table 1: Response Rate

Response	Frequency	Percentage (%)
Questionnaires answered	91	66.91
Questionnaires Unanswered	45	33.09
<b>Total</b>	<b>136</b>	<b>100</b>

Researcher distributed a total of 136 questionnaires. A total of 91 were returned from the field, denoting a response rate of 66.91%. A return rate of over 50% is considered satisfactory and the findings are considered good for publication (Mugenda & Mugenda, 2003).

### Demographic Characteristics of Respondents

Participants' demographics were examined based on a number of important factors, including gender, age, education, length of stay in the incubator, business registration, and incubator-specific features. Table 2 below presents an overview of the analysed demographic characteristics of respondents.

Table 2: Demographic Characteristics of Respondents

	Sub-category	Frequency	Percent
Gender	Male	64	70.33
	Female	27	29.67
	<b>Total</b>	<b>91</b>	<b>100</b>
Age	20-29 years	18	19.77
	30-39 years	11	12.09
	40-49 years	40	43.96
	Above 50	22	24.18
	<b>Total</b>	<b>91</b>	<b>100</b>

Education level	Tertiary	22	24.18
	Bachelors	34	37.36
	Masters	21	23.08
	Ph.D.	14	15.38
	<b>Total</b>	<b>91</b>	<b>100</b>
Duration at the incubator	1 years and below	17	18.68
	2-3 years	26	28.57
	4-5 years	38	41.76
	6 years and above	10	10.99
	<b>Total</b>	<b>91</b>	<b>100</b>
Business registration	Sole proprietorship	25	27.47
	Partnership	18	19.78
	Limited liability	45	49.45
	Not registered	3	3.30
	<b>Total</b>	<b>91</b>	<b>100</b>
Unique characteristics	Patented product	21	23.08
	Proprietary software	17	18.68
	Projected profitability	11	12.09
	Projected social benefits	16	17.58
	Services offered	26	28.57
<b>Total</b>	<b>91</b>	<b>100</b>	

Table 2...

Table 2 indicates that most of the participants in this research were male, representing 70.33% of all respondents, while females constituted 29.67%. This implies that the 2010 Kenyan Constitution's requirement of the one-third gender rule was followed in the representation of both men and women in the university incubation. This indicates that gender inclusivity practices are being progressively adopted in the universities. This aligns with global trends promoting gender equality in leadership roles. In the distribution of respondents ages indicated 19.77% were 20-29 years, while, 12.09% were 30 - 39. Another group of respondents indicated that majority of respondents (43.96%) were 40 - 49 years while 24.18% were of above 50 years. This suggests that employees who are sufficiently knowledgeable and mature participated in the study.

The educational level of the respondents represented, 24.18 % holding tertiary level education, 37.36 % with a bachelor's degree, 23.08 % holding a Master's degree, 15.38 % with a Ph.D. This high level of education among respondents points at a well-qualified group of individuals, capable of providing informed insights into BI services. The prevalence of advanced

degrees suggests that the respondents possessed a strong theoretical and practical understanding of academic and administrative issues, which is crucial for evaluating the effectiveness of restructuring strategies.

An analysis on terms of service indicated a large percentage of respondents (41.76%) had been working for a duration of 4-5 years. Those who had been employed for 2-3 years came next (28.57%). This who had been employed for 2-3 years (28.57%) followed, one year and below (18.68%) and six years and above 10.99%. An analysis on business registration within university-based BI services pointed out that limited liability companies were the most common, making up 49.45% of registered businesses. This suggests that startups prefer this structure for legal protection and credibility.

Sole proprietorships followed at 27.47%, reflecting individual entrepreneurial ventures that require minimal regulatory compliance. Partnerships accounted for 19.78%, highlighting collaborative business efforts within the incubator environment. Interestingly, only 3.30% of businesses remained unregistered, indicating that most incubator-supported ventures formalized their operations. Based on these figures, it appears that university incubators are crucial in helping new businesses get registered as legally recognized businesses, with a strong preference for legal structures that provide liability protection and operational flexibility.

An analysis on unique characteristics in university-based BI services reveals distinct trends. Among the characteristics analyzed, the most common feature was services offered, accounting for 28.57% of cases, indicating that incubators prioritized providing various support services to start-ups. Patented products followed at 23.08%, suggesting a strong emphasis on intellectual property and innovation. Proprietary software represented 18.68%, reflecting the role of technology-driven solutions in incubation programs. Projected social benefits accounted for 17.58%, highlighting the importance of socially impactful ventures; projected profitability was the least common at 12.09%, indicating that financial sustainability, though considered, was not always a primary focus. These findings suggest that university incubators balanced commercial viability with technological advancement and social impact, fostering a diverse entrepreneurial ecosystem.

## Regression Analysis

Regression was required to determine the link between the dependent and independent variables, which allowed for predictions and inferences based on observed data (Muathe, 2010). By modeling this connection, regression aids in quantifying the influence of numerous elements and facilitating decision-making in complex systems. However, diagnostic tests were required

to confirm the regression model's reliability and validity. Diagnostic tests show that the model assumptions hold, which improves the accuracy and trustworthiness of the study (Sarstedt & Mooi, 2019).

### **Hypotheses Testing for Direct Relationship**

The adjusted R-squared and p-value values were employed to interpret the study results, with significance set at  $P < 0.05$ . To substantiate the regression analysis, a composite index was computed for both the independent and dependent variables.

Table 3: Business Incubator Services and New Venture Creation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.879 <sup>a</sup>	.773	.759	.460

a. Predictors: (Constant), Network Services, ICT Infrastructure, Training, Access to Financial Resources

b. Dependent Variable: New Venture Creation

#### **ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	49.609	4	12.402	62.661	.000 <sup>b</sup>
	Residual	18.011	87	.198		
	Total	67.620	91			

a. Dependent Variable: New Venture Creation

b. Predictors: (Constant), Network Services, ICT Infrastructure, Training, Access to Financial Resources

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.123	.056		2.871	.001
	Network Services	.255	.058	.253	4.238	.003
	ICT Infrastructure	.267	.063	.264	3.567	.005
	Training	.214	.060	.215	3.428	.005
	Access to Financial Resources	.276	.067	.273	4.119	.001

The model summary outcomes in Table 3 indicates the study model's predictive power was examined utilizing the adjusted R square which was .759 inferring that network services, ICT infrastructure, training and access to financial resources explained 75.9 percent of the

variations in the new venture creation. The remaining 24.1% of new venture creation is explained by variables other than those in the model.

The ANOVA analysis indicate the F statistics is 62.661 while P-value = 0.000 and significant at  $P < 0.05$ . Therefore, the statistics imply that the model significantly predicts the link between network services, ICT infrastructure, training and access to financial resources and new venture creation in universities in Kenya. The estimated regression model for direct relation was:

New venture creation = 1.023+ 0.255 network services + 0.267 ICT infrastructure + 0.214 training + 0.276 access to financial resources+  $\epsilon$ ..... Model 1

The regression model portrays that if all aspects (network services, ICT infrastructure, training and access to financial resources) are held constant, the new venture creation would be 1.023. In addition, the model also specifies that when all other variables held constant, network services would increase new venture creation by 0.255, ICT infrastructure would increase new venture creation by 0.267, training would increase new venture creation by 0.214, and access to financial resources would increase new venture creation by 0.276. Outcomes indicate that while training had the least impact on the establishment of new ventures, access to financial resources had the greatest impact. Furthermore, the regression analysis shows that the independent factors had a significant impact on the establishment of new ventures in Kenyan Universities, with a P-value of less than or equal to 0.05.

The first specific objective explored by this investigation was to examine the effect of network services and new venture creation in universities in Kenya. Its corresponding null hypothesis was;  $H_{01}$ : Availability of network services has no significant effect on new venture creation in universities in Kenya. The regression model estimated on table 3 reveals that network services was statistically significant at  $\beta=0.255$ ;  $t = 4.238$ ;  $p = 0.003$  since the p value was less than 0.05. The null hypothesis was rejected and the results translated that a unit change in network services would results to 0.255 increase in new venture creation in universities in Kenya. Based on this, the null hypothesis was rejected and it can be concluded that network services had significant positive impact on new venture creation in universities in Kenya.

The second specific objective explored by this investigation was to analyze the effect of ICT infrastructure and new venture creation in universities in Kenya. Its agreeing null hypothesis was;  $H_{02}$ : ICT infrastructure has no significant effect on new venture creation in universities in Kenya. The regression model estimated in table 3 reveals that ICT infrastructure was statistically significant at  $\beta=0.267$ ;  $t = 3.567$ ;  $p = 0.005$  since the p

value was less than 0.05. The null hypothesis was rejected and the results translated that a unit change in ICT infrastructure would result to 0.267 increase in new venture creation in universities in Kenya. Based on this, the null hypothesis was rejected and it can be concluded that ICT infrastructure had significant positive impact on new venture creation in universities in Kenya.

The third specific objective explored by this investigation was to examine the effect of training and new venture creation in universities in Kenya. Its conforming null hypothesis was;  $H_{03}$ : training has no significant effect on new venture creation in universities in Kenya. The regression model estimated in table 3 reveals that training was statistically significant at  $\beta=0.214$ ;  $t = 3.428$ ;  $p = 0.005$  since the p value was less than 0.05. The null hypothesis was rejected and the results translated that a unit change in training would result to 0.214 rise in new venture creation in universities in Kenya. In regards to this, the null hypothesis was rejected it can be concluded that training had significant positive effect on new venture creation in universities in Kenya. The implications of this conclusion regarding the outcomes of hypothesis one of the investigations necessitate an explanation from a variety of perspectives.

The fourth specific objective explored by this investigation was to examine the effect of access to financial resources and new venture creation in universities in Kenya. Its corresponding null hypothesis was;  $H_{04}$ : access to financial resources has no significant effect on new venture creation in universities in Kenya. The regression model estimated in table 3 discloses that training was statistically significant at  $\beta=0.276$ ;  $t = 4.119$ ;  $p = 0.001$  because the p value was less than 0.05. The null hypothesis was rejected and the results translated that a unit change in access to financial resources would result to 0.276 increase in new venture creation in universities in Kenya. Based on this, the null hypothesis was rejected and it can be concluded that access to financial resources had significant positive effect on new venture creation in universities in Kenya.

### **Business Incubator Services, External Environment and New Venture Creation**

Hypothesis  $H_{05}$ : external environment has no significant moderating effect on the relationship between BI services and new venture creation in universities in Kenya.

To facilitate this study, a composite index was developed for the independent variable (BI services). This was by calculating a weighted average of the three sub-variables: market condition, competitive pressure and government regulations. The analysis was then conducted using a two-step approach, as outlined by Baron and Kenny (1986).

## Step One: Regression of new venture creation on BI services

Table 4: Regression of New Venture Creation on BI Services

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.723 <sup>a</sup>	.523	.501	.810

a. Predictors: (Constant), BI Services

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.910	4	15.468	23.548	.000 <sup>b</sup>
	Residual	56.493	87	0.657		
	Total	64.403	91			

a. Dependent Variable: New Venture Creation      b. Predictors: (Constant), BI Services

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.572	.425		6.508	.000
	Business Incubator Services	0.519	.098	.515	5.296	.000

Table 4 above showed the adjusted R-Squared as 50.1%. This means 50.1% of variation in new venture creation can be explained by BI services. The ANOVA scores indicate that the F statistics at (4, 87) is 23.548, with a (P) value of 0.000, which is less than 0.05. This portrayed that new venture creation is statistically and significantly influenced by BI services. The regression model for this statistical analysis was:

New venture creation = 2.572 + 0.519 BI services +  $\epsilon$ ..... Model 2

Step Two: Regression of new venture creation on external environment and business incubator services.

Table 5: Regression for Moderation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848 <sup>a</sup>	.265	.256	.519

a. Predictors: (Constant), External Environment, BI Services

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.624	4	8.624	31.293	.000 <sup>b</sup>
	Residual	23.976	87	0.276		
	Total	32.6	91			

a. Dependent Variable: New Venture Creation

b. Predictors: (Constant), External Environment, BI Services

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.537	.615		4.125	.005
	External Environment	.281	.143	.282	1.965	.005
	Business Incubator Services	.069	.059	.068	1.169	.003

Table 5...

Table 5 above indicated the adjusted R-squared as 25.6%. This means 25.6% of variation in new venture creation can be explained by both external environment and BI services. The ANOVA scores indicate that the F statistics at (4, 87) is 31.293, with a (P) value of 0.000, which is less than 0.05. This point out that new venture creation is positively and significantly affected by external environment and BI services. The regression model for this statistical analysis was:

New venture creation = 2.537 + 0.281 external environment + 0.069 BI services +  $\epsilon$ ..... Model 3

Based on this, the null hypothesis was rejected and it can be concluded that external environment had significant positive moderating effect on the link between BI services and new venture creation in universities in Kenya. The study utilized data on the incubator's attributes, descriptive characteristics of the dependent variable in the hypothesis, along with existing conceptual, theoretical, and empirical literature. Most employees had a bachelor's certificate, and had worked for a period of 4-5 years in the incubator indication that the respondents had adequate professional experience on BI.

The moderating variable for this hypothesis was external environment which was operationalized using three indicators: market conditions, competitive pressure and government regulation. The findings can further be explained using the Dynamic Capability Theory which

offers a framework for understanding how firms navigate crises by continuously realigning their resources. This study finding projects the critical significance of BI services in propelling new venture creation is enhanced by external environment (Pulka, Ramli, & Mohammed 2021; Fithri, Hasan, & Syafrizal, 2024); Zahoro & Banele, 2024). Muslim *et al* (2024) further argue that BI constitutes one of the most profound strategies to encourage entrepreneurship and innovation in higher education.

Three implications are raised by the diverse explanations for Hypothesis. First, it investigates the external environment as a moderating variable on the link between BI services and new venture creation, thereby advancing the understanding in the context of Kenya. Second, this investigation adds up to the advancement of existing knowledge by examining the ways in which universities are motivated to establish external environment on issues concerning market conditions, competitive pressure and government regulation as well as how these motives influence new venture creation. Third, it complements the findings of developed economies, contributing to the generalization of such outcomes on the investigation of external environment as a moderating variable. In this way, the results align with earlier empirical research carried out across other industries. SMEs, education, hospitality, horticulture, and microfinance in established European and Asian economies are examples of this.

## CONCLUSIONS

The study investigated how BI services affects new venture creation in universities in Kenya. From the investigation outcomes and explanations presented, the investigation draws some core conclusions. First, network services, ICT infrastructure, training and access to financial resources all contributes positively and significantly towards new venture creation in universities. Therefore, network services, ICT infrastructure, training and access to financial resources had significant positive effect on the new venture creation in universities in Kenya. Strengthening these incubator services can enhance the success and sustainability of new ventures in Kenyan higher education institutions.

Secondly, external environment had significant positive moderating effect on the link between BI services and new venture creation in universities in Kenya. By adopting market condition, competitive pressure and government regulations concepts, universities in Kenya can effectively achieve their objective and thus, increase in new venture creation. Strengthening this alignment will not only foster innovation but also ensure the sustainability of university-based start-ups.

## POLICY RECOMMENDATIONS

Top management teams should designate dedicated resources to support development and sustainability of BI services and implement them into university strategic plans. This necessitates establishment of explicit policies that ensure that incubator services are in sync with national economic and industrial priorities, guaranteeing both pertinent and effective entrepreneurial support. Universities should also allocate resources to the development of smart workspaces that are outfitted with contemporary technology. This will cultivate a dynamic and collaborative environment that facilitates business development, innovation, and networking. Ultimately, the successful creation of a venture will be facilitated by the enhancement of these network services; this would provide student entrepreneurs with access to valuable industry connections, mentorship, and market opportunities.

Investments in ICT infrastructure should be a top priority for management in order to build a technologically advanced setting that helps start-ups grow. As part of this, innovative workplaces with the latest technology are being built so that individuals can improve their skills and knowledge and use digital tools for business growth and innovation. Universities should also set up digital platforms that make it easier for students to network, get help from mentors, and find job chances in the market. This will help start-ups grow quickly. Institutions can encourage digital entrepreneurship by improving ICT infrastructure. This will give new businesses tools they need to succeed in today's competitive business world.

Universities should enhance their training programs by integrating structured entrepreneurial education and hands-on business development workshops within incubator services. This includes offering specialized training in areas such as business strategy, financial management, market analysis, and innovation to equip aspiring entrepreneurs with the skills needed to launch and sustain successful ventures. Further, mentorship programs and industry partnerships should be strengthened to provide real-world insights and experiential learning opportunities. By investing in comprehensive training initiatives, universities can empower students with the knowledge, confidence, and practical expertise necessary to navigate complexities of new venture creation and long-term business success.

The GoK, the CUE, and universities in Kenya should corporately establish multi-stakeholder networks that facilitate entrepreneurial knowledge sharing, resource allocation, and joint problem-solving. The GoK can spearhead in creating policies that encourage partnerships between universities and research institutions, providing financial incentives for collaborative projects that focus on innovation and sustainability. The CUE could offer technical expertise and facilitate workshops focusing on best practices, emerging technologies, and market trends, helping universities adapt to changing conditions.

## LIMITATIONS AND FUTURE RESEARCH

According to the conceptual framework, outcomes, and conclusions of the study, there is potential for further research to enhance understanding of the impact of BI services on new venture creation. The results were derived from data collected in 2025, making this a cross-sectional study that confines its findings to that specific time frame. Therefore, the survey suggests that conducting longitudinal research could yield deeper insights into the causal relationship between BI services on new venture creation, as the present investigation cross-sectional design limits its capability to establish a definitive causal link.

Further, the scope of this investigation was constrained by the constructs and context used. Future research could broaden the study's framework to encompass additional aspects of BI strategies. Further investigations could incorporate other metrics for a more comprehensive understanding. This study focused on universities in Kenya; further research could venture into other specific contexts.

Need arises for similar research in other sectors beyond universities, for instance, the SMEs, technological firms, industrial firms, insurance companies and, commercial banks, among others. Further research could also explore broader scopes to include countries other than Kenya, offering insights relevant to diverse contexts.

## REFERENCES

- Aboobaker, N. (2020). Human capital and entrepreneurial intentions: do entrepreneurship education and training provided by universities add value? *On the Horizon*, 28(2), 73-83. <https://doi.org/10.1108/OTH-11-2019-0077>
- Ahmed, N., Li, C., Qalati, S. A., Rehman, H. U., Khan, A., & Rana, F. (2022). Impact of business incubators on sustainable entrepreneurship growth with mediation effect. *Entrepreneurship Research Journal*, 12(2), 137-160. DOI: 10.1515/erj-2019-0116
- Akinyemi, F. O., & Adejumo, O. O. (2018). Government policies and entrepreneurship phases in emerging economies: Nigeria and South Africa. *Journal of Global Entrepreneurship Research*, 8, 35. <https://doi.org/10.1186/s40497-018-0131-5>
- Amit, R., & Schoemaker, P. J. (1993). Strategic assets and organizational rent. *Strategic management journal*, 14(1), 33-46.
- Armas, K. L., & Moralde, R. R. (2022). Operation of technology business incubators in selected state universities in the Philippines: Basis for strategic action plan for sustainability. *International Journal of Applied Engineering and Technology*, 4(1), 102-121.
- Barney, J. B. (1989). Asset stocks and sustained competitive advantage: A comment. *Management science*, 35(12), 1511-1513.
- Cai, L., Anokhin, S., Yin, M., & Hatfield, D. E. (2016). Environment, resource integration, and new ventures' competitive advantage in China. *Management and organization review*, 12(2), 333-356.
- Czaplińska, A., & Romanowski, R. (2024). Functioning of business incubators and technology parks in Poland in the context of Industry 4.0. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie*, (192).
- Diawati, P & Sugesti, H. (2023). The Role of Business Incubators in Encouraging Students to Develop Entrepreneurial Ideas. *Indo-MathEdu Intellectuals Journal*, 4 (2), 318-331. <http://doi.org/10.54373/imeij.v4i2.202>.
- Drucker, P. (1985). *Entrepreneurship and innovation: Practice and principles*. NY: Harper Business.

- Dvouletý, O., Srhoj, S., & Pantea, S. (2021). Public SME grants and firm performance in European Union: A systematic review of empirical evidence. *Small Business Economics*, 57, 243-263.
- Egbetokun, A. (2023). Business incubators in Africa: a review of the literature. *Innovation and Development*, 1-28.
- Gartner, W. B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of management review*, 10(4), 696-706.
- Gozali, L., Masrom, M., Zagloel, T.Y.M., Haron, H.N., Garza-Reyes, J.A., Tjahjono, B., Irawan, A.P., Daywin, F.J., Syamas, A.F., Susanto, S., Aliwarga, H.K.K., Marie, I.A., (2020). Performance Factors for Successful Business Incubators in Indonesian Public Universities. *International Journal of Technology*. Volume 11(1), pp. 155-166
- Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation*, 25(2), 111-121.
- Hakizimana, S., Muathe, S., Muraguri, C. W., & Muithya, V. (2023), Fintech Startups: What does the Future hold for Financial Institutions in Kenya? *Science and Education*, 3(7), 1327-1345.
- Hausberg, P., & Korreck, S. (2018). Analysis-based, systematic literature review. *Speedboating into the future-how organizations use open foresight and business incubation as strategic means to explore trends and promote innovation*, 114.
- Henrekson, M., & Sanandaji, T. (2020). Measuring entrepreneurship: Do established metrics capture Schumpeterian entrepreneurship? *Entrepreneurship Theory and Practice*, 44(4), 733-760.
- Karitu, B., & Muathe, S. (2023). The new venture creation approach: The role of business incubators in Kenya. *International Journal of Research and Innovation in Social Science*, VII (V). <https://doi.org/10.47772/IJRIS>.
- Karitu, B., & Muathe, S. (2023). Microfinance institutions and cooperatives: Unexploited blue ocean strategy for growth of MSMEs in Kenya. *International Journal of Social Science and Economic Research*, 8(04), 618-640.
- Karitu, B., & Namusonge, M. (2019). Entrepreneurial decision-making style and the growth of small medium-sized manufacturing enterprises in Nairobi, Kenya. *The Strategic Journal of Business & Change Management*, 6(3), 132-144.
- Karitu, B., Wangondu, W., & Muathe, S. (2022). A theoretical route towards conceptualization of start-ups in emerging markets: A Kenyan perspective. *International Journal of Research in Business & Social Science*, 11(4).
- Kimathi, B. M. (2020). Entrepreneurial Mindset and Performance of Small and Medium Enterprises in Kenya (Doctoral Dissertation, JKUAT-COHRED).
- Kiran, R., & Bose, S. C. (2020). Stimulating business incubation performance: Role of networking, university linkage and facilities. *Technology Analysis & Strategic Management*, 32(12), 1407-1421.
- Lim, C., & Fujimoto, T. (2019). Frugal innovation and design changes expanding the cost-performance frontier: A Schumpeterian approach. *Research Policy*, 48(4), 1016-1029.
- Metallo, C., Agrifoglio, R., Briganti, P., Mercurio, L., & Ferrara, M. (2021). Entrepreneurial behaviour and new venture creation: The psychoanalytic perspective. *Journal of Innovation & Knowledge*, 6(1), 35-42.
- Muathe, S. M. A. (2010). The Determinants of Adoption of Information and Communication Technology by Small and Medium Enterprises within the Health Sector in Nairobi, Kenya. Unpublished PhD Thesis, Kenyatta University.
- Muathe, S., & Otieno, V. (2022). Startup Incubation and Accelerators in Africa; Are Start-Ups Scaling Up In Kenya? *American International Journal of Social Science Research*, 11(1), 23-28.
- Mugambi, W. M. (2020). Effect of accelerator programs on business success among technology startups in Kenya (Doctoral dissertation, Strathmore University).
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and Qualitative Approaches*. Acts Press, Nairobi.
- Muslim, S., Sekamdo, M. A., & Purnomo, D. (2024). Creation of Business Incubators in University Through the Perspective of Business Law. *International Journal of Business, Law, and Education*, 5(1), 1021-1032.
- Njau, J. M., Mwenda, L. K. M., & Wachira, A. W. (2019). Effect of infrastructural facilities support provided by business incubators on technology based new venture creation in Kenya.
- Pulka, B. M., Ramli, A., & Mohamad, A. (2021). Entrepreneurial competencies, entrepreneurial orientation, entrepreneurial network, government business support and SMEs performance. The moderating role of the external environment. *Journal of Small Business and Enterprise Development*, 28(4), 586-618.

Ruhiu, R. W. (2016). Business incubation services and the growth of micro and small enterprise in Kenya (Doctoral dissertation, Jomo Kenyatta University of Agriculture and Technology).

Sonne, L. (2012). Innovative initiatives supporting inclusive innovation in India: Social business incubation and micro venture capital. *Technological Forecasting and Social Change*, 79(4), 638-647.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Sudana, I. M., Apriyani, D., Suprpto, E., & Kamis, A. (2019). Business incubator training management model to increase graduate competency. *Benchmarking: An International Journal*, 26(3), 773-787.

Wangondu, W., & Muathe, S. M. (2023). Seed Capital and Performance: Reflections and Way Forward for Micro, Small and Medium Enterprises in Kenya. *International Journal of Research and Innovation in Social Science*, 7(5), 275-283. DOI: <https://doi.org/10.47772/IJRIS.2023.70523>.

Villaseca, D., Navío-Marco, J., & Gimeno, R. (2020). Money for female entrepreneurs does not grow on trees: Start-ups' financing implications in times of COVID-19. *Journal of Entrepreneurship in Emerging Economies*, 13(4), 698-720. <https://doi.org/10.1108/JEEE-06-2020-0172>