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THE ROLE OF BUSINESS INCUBATION MECHANISMS IN INCREASING SUCCESS CHANCES OF STARTUPS: A CASE STUDY OF TEBESSA, ALGERIA

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Abstract

This study aims to explore the impact of business incubation mechanisms on enhancing the success chances of startups in Tebessa, Algeria. This exploration involves analyzing pivotal services, such as access to financing, the quality of mentorship programs, collaborative environments, and networking opportunities. Utilizing a descriptive-analytical approach for constructing the theoretical framework, this research adopts a mixed-methods approach that merges quantitative and qualitative techniques for a comprehensive case study. The primary data sources include the INNOEST COMPANY database, the Tebessa University Business Incubator, and interviews conducted with incubator graduates, managers, and mentors. Analysis was executed using SPSS V26 software, with findings highlighting the indispensable role of incubation services in bolstering startup sustainability and success. These findings demonstrate that mentorship programs, collaborative environments, networking, and financial access significantly influence startup success, with a statistical significance level of less than 0.05.

Keywords: *Business Incubation; Mechanisms; Startups; Success Chances.*
JEL Codes: *L26, M13,L2 1*

Introduction

In the entrepreneurial realm, startups frequently face a multitude of obstacles and challenges as they navigate from concept to a successful and sustainable venture. Business incubation mechanisms have emerged as a pivotal strategic tool for economic development, crafted to furnish a nurturing environment for startups during their initial and intermediate stages. This study meticulously examines the role of these incubation

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mechanisms, incorporating an array of services, in fostering the success and sustainability of startups (Awonuga, 2024, p. 1420).

The global proliferation of the incubation concept, indicates the existence of approximately 7,000 incubators, 2,000 accelerators, and over 500 science andtechnology parks globally by the year 2018(Awonuga, 2024, p. 1420). In this context, the term "business incubation mechanisms" encompasses a variety of models and tools such as business incubators, accelerators, and science parks, both physical and virtual.(Mian S. A., 2021).

These mechanisms are intricately designed to support the growth and success of startups and new ventures by increasing their chances of long-term sustainability. This support is achieved by providing an environment conducive to accessing funding, mentorship, networking opportunities, and workspace facilities (Awonuga, 2024, p. 1422).

The success of startups is of substantial economic importance as it drives innovation, generates employment, enhances industrial diversity, and revitalizes the business landscape. However, the journey from an innovative idea to continued success is fraught with uncertainties and substantial challenges, thereby making it imperative to delineate the key factors that contribute to startup success (Bărbulescu, 2021, p. 02).

Recent years have witnessed a notable surge in the growth of Algerian startups, catalyzed by government initiatives supporting entrepreneurship. Business incubation mechanisms play a crucial role in molding the development trajectories of these startups. Consequently, it is vital to explore how these mechanisms aid in achieving success by examining the strategies, financing mechanisms, mentorship programs, training, and the comprehensive services they provide.

Predicated on the aforementioned, this study poses a critical question: **How do business incubation mechanisms, through their diverse services, contribute to the success of startups?**

To answer the question, we formulated the following hypotheses:

- **H1**: Access to financing through business incubation mechanisms significantly impacts the success of startups.
- **H2**: The quality of mentorship programs within business incubation mechanisms plays a critical role in enhancing startup success.
- **H3**: Collaborative environments fostered by business incubation mechanisms are instrumental in the success and sustainability of startups.
- **H4**: Enhancing a startup's networking opportunities substantially increases its chances of success.

Theoretical Background

Terminology of the Study

Startups:

Startups are defined as entities that initiate a suite of business activities in contexts marked by significant uncertainty, engaging in the process, known as creative destruction. These entities play a crucial economic and social role by introducing innovative services and products that generate revenue, create employment opportunities, add value, and elevate living standards. Startups evolve through a symbiotic relationship with their surroundings by effectively utilizing available resources and engaging with partners and stakeholders within what is commonly referred to as the startup ecosystem (Máté, 2024, p. 01). Startups are considered one of the forms of entrepreneurship (Saoud, 2023, p. 70).

Business Incubation:

The term "business incubation" refers to the process designed to support the survival and accelerate the development of startups through a comprehensive array of services and resources essential for entrepreneurs. This support is facilitated through diverse programs and mechanisms, such as incubators, accelerators, and science parks, which are overseen by specialists with deep expertise in entrepreneurship, as these mechanisms are pivotal in fostering innovation and enhancing competitiveness. The selection of an appropriate incubation mechanism and the ability to fully leverage the support and guidance it provides are instrumental in the creation of innovative and financially independent firms, which, in turn, catalyzes economic growth (Mian S. A., 2021).

Business Incubation Mechanisms

Theories on the Study of the Business Incubation Process

Table no. 1 – Theories Used to Study the Business Incubation Process

Theory Used	Author
Initiating New Projects or Addressing Market Issues: Dealing with issues arising from inefficient resource allocation as a compensation for market failures.	Balsiglia and Allen (1985);Bollingtoft and Ulhoi (2005)
Resource-Based Theory: Incubation mechanisms are viewed as organizations that provide tangible and intangible resources for incubated companies to develop and grow.	McAdam and McAdam (2008);Patton et al.(2009); Todorovic and Mentre (2010); Mian et al. (2012)
Stakeholder Theory: Incubation mechanisms act as a bridge to	Mian (1997); Corana et al.

achieve the goals of partners and stakeholders in the entrepreneurial environment**.**	(2006); Etzkowitz (2002)
Social Network Theory: Incubation mechanisms intensify both the internal and external networks of incubated companies.	Tettermann and Steen (2005); Hansen et al. (2000)
Real Options Perspective: The selection of incubated companies is based on criteria that align with the strategies of each incubation mechanism.	Hackett and Dilts (2004)
Dyadic Theory: Support is produced through the collaboration between the incubation mechanism and the incubated company.	Rice (2002); Warren et al. (2009)
Institutional Theory: Business incubation mechanisms provide incubated companies with a structured approach and rules to reduce uncertainties and risks.	Guerrero and Urbano (2012); Van et al. (2005)
Driving Mechanisms Theory: Each incubation mechanism has an internal policy that includes values and organizes relationships within the incubator.	Ahmed (2014); Bergerik and Norman (2008)
Virtual Incubation Perspective: The incubation mechanism offers the necessary knowledge and ideas for developing entrepreneurial projects.	Nowak and Grantham (2000); Jans and Stern (2003).

Source: (Mian S. L., 2016, p. 02)

Models

Science parks, incubators, and accelerators are foundational mechanisms that enhance innovation, success, and the sustainability of startups through their significant value-added inputs. Choosing the right mechanism, aligned with the specific mission and context of the startup, is critical for achieving the desired outcomes (Mian S. L., 2016, p. 3).

Here is an elaboration of definitions along with a detailed comparison highlighting the key distinctions among each of the previously mentioned mechanisms.

• Business Incubators: As articulated by Bergek and Norrman (2008), business incubators are organizations that furnish shared workspaces, essential services, and networking opportunities to support startups during their nascent stages. The duration of incubation typically averages about two years, although this can vary based on the incubator's policies and the specific circumstances of the company. According to Honig and Karlsson (2008), incubators facilitate the creation and growth of new companies by offering shared office spaces. They can broadly be defined as business stimulation organizations and more narrowly as business incubators (Hausberg, 2021).

• Business Accelerators: Defined by their time-bound programs, business accelerators offer intensive mentorship and educational services to startups over short periods ranging from three to six months. These programs are designed to connect startups with venture capitalists, angel investors, and seasoned entrepreneurs, supporting companies that have already commenced their operations and are aiming for rapid growth. Accelerators are more selective compared to incubators and culminate with a demo day where startups present their projects to potential investors (Hausberg, 2021).

• Science Parks: These specialized organizations are dedicated to promoting scientific research, facilitating technological flow, and stimulating economic growth. They often represent partnerships among academic institutions, government bodies, and the private sector, offering a range of services that include laboratories, office spaces, and workshops.(Link, 2003, p. 81).

Table no. 2 – *Key differences between business incubation mechanisms.*

Characteristics	Business Incubators	Business Accelerators	Science Parks
Objective	Support the creation and development of business ventures.	Accelerate business growth.	Support the process of technology transfer.
Provision of Workspaces	Focuses on providing workspaces; there are also virtual incubators.	Sometimes, but the main focus is on providing support services.	Based on real estate ownership.
Service Portfolio	Training workshops for skill development. Guidance for business model development and strategy formulation. Building internal and external networks. Access to funding, seed capital, equity. Various services, such as accounting, specialized equipment, etc.	Intensive training workshops for skill development. Intensive guidance focusing on growth strategies. Connecting with other entrepreneurs and stakeholders in the entrepreneurial ecosystem. Access to funding, seed capital, venture capital, demo day.	Includes R&D units for large companies. Includes incubators and innovation centers. Technology transfer. Connecting with other entrepreneurs and stakeholders in the entrepreneurial ecosystem.
Service Provision	On-demand.	Mandatory and part of the program.	On-demand.

Support Period	Typically up to 3 or 4 years, sometimes longer.	3 to 6 months.	Long-term lease.
Acceptance and Exit Criteria	Acceptance is continuous and focused according to the incubator's policy.	Acceptance is batch-based and competitive.	Acceptance is continuous and focused according to the science park's policy.
Tenant Status	They enter before the startup phase.	They enter after the startup phase.	Acceptance is continuous.
Business Model	Often subsidized and covers operational costs through rental fees, typically non-profit.	For-profit, linked to venture capitalists, private and public investors.	Linked to university research laboratories, may be either for-profit or non-profit.
Growth Directions	Moderate growth rate.	Moderate to rapid growth rate.	Stable growth.

Source (Mian S. A., 2021)

Factors Contributing to the Success of Startups

The evaluation of a country's business environment is often predicated upon the success of projects that have been meticulously established from the ground up (Kubatko, 2020, p. 64). Consequently, the theme of startup success has captured considerable attention among research scholars.

The Success and Continuity of Startups:

The continuity and longevity of startups are delineated by their capacity to realize their predetermined goals, sustain operational independence, and generate a positive cash flow, which is often facilitated through strategic partnerships and stakeholder engagements (Ssekiziyivu, 2021, p. 4).

Factors Supporting the Success of Startups

Product Idea: The conception of a product plays a pivotal role in the success trajectory of a company. It is imperative that the product idea not only fulfills a useful need but also aligns with consumer demands, ensuring its viability and market reception (Kubatko, 2020, pp. 67-68).

- Effectiveness of the Strategic Plan: The efficacy of a strategic plan is mirrored in the company’s vision, mission, and objectives, which should collectively aim at fostering sustained growth. This involves a continuous rollout of new products to adapt to market

dynamics, alongside the development of comprehensive financial plans and technical feasibility studies (Tomy, 2018, p. 3).

- Personal Traits of the Entrepreneur: The competitiveness of a company can be significantly gauged through the personal attributes of the entrepreneur, which encompass factors like age, leadership quality, motivation, and vision. Additionally, the entrepreneur's professional background, educational qualifications, and prior corporate experiences contribute to forging a robust network of relationships, pivotal for growth and success (Kubatko, 2020, p. 68).

- Financial Stability of the Startup: Financial stability stands as the cornerstone for the survival of startups (Crockett, 2013, p. 860). In their nascent stages, startups often lean on the personal savings of the entrepreneur or financial aids from close acquaintances like family and friends. As the startup matures, it increasingly seeks external financing avenues, such as angel investors, crowdfunding platforms, and venture capital, which not only provide capital but also strategic advice and networking opportunities (Suh, 2016, p. 677).

- Support Structures and Facilities: Infrastructures, such as business incubators, accelerators, co-working spaces, and science parks offer critical services including workspaces, training, mentoring programs, seed capital, investor linkage, and networking opportunities (Kubatko, 2020, p. 68).

-Innovation: Innovation manifests through the openness of team members, progressive thinking, a flexible organizational culture, and the development of new products that are in tune with market trends and consumer needs (Kubatko, 2020, p. 68).

Technology: The ability to monitor and harness cutting-edge technologies, coupled with expertise in technical skills and craftsmanship, is essential for maintaining a competitive edge (Park, 2017, p. 4).

Entrepreneurship: Entrepreneurship is characterized by the entrepreneur's capacity to steer the startup towards success, marked by a penchant for adventure, a drive for achievement, sensitivity to risks, and a clear focus on goals (Kim, 2012, p. 900).

Market: Thorough analysis and comprehension of the market are crucial for discerning its characteristics and dynamics. A company evolves within a marketplace teeming with investors and financiers. In a highly competitive market, vulnerabilities may surface, yet these scenarios also present opportunities to forge strategic partnerships that can alleviate resource scarcities (Tripathi, 2019, p. 60).

The Role of Business Incubation Mechanisms in the Success of Startups

The fundamental objective of business incubation mechanisms is to nurture the growth and development of startups by mitigating the challenges they face and

augmenting their chances of achieving long-term sustainability. These mechanisms provide a nurturing environment where resources and expertise are readily accessible, and where innovative ideas can mature into viable business projects (Li, 2020, p. 1822).

The efficacy of these mechanisms in fostering startup success is evaluated by examining several key aspects: Ease of access to funding; Quality of mentorship programs; Availability of collaborative workspaces; Networking opportunities - these elements are crucial components of a successful incubation program (Awonuga, 2024, p. 1423).

Access to Funding and the Success of Startups

Business incubation mechanisms serve as critical conduits to a variety of funding channels, providing substantial advantages to startups in their formative stages (Awonuga, 2024, p. 1423). The funding avenues, facilitated by these mechanisms include:

Initial funding, facilitated by business incubation mechanisms plays a crucial role in transforming concepts into tangible realities. This pivotal capital infusion assists entrepreneurs in developing product prototypes and conducting essential market research. Business incubation mechanisms cultivate relationships with venture capitalists, enhancing connections between startups and prospective investors, which allows emerging companies to present their innovative ideas and developmental progress, securing the necessary funding to foster their growth and ensure sustainability. Additionally, these incubation mechanisms establish vital links between startups and angel investors, who frequently offer financial backing and invaluable mentorship in return for equity stakes. They also enable startups to access government support programs tailored for their growth, and present direct investment opportunities, including joint ventures or partnerships with major corporations. Such collaborations provide startups with not only financial support but also critical access to industry expertise, i.e. the array of financing channels that business incubation mechanisms provide gives startups the essential tools to secure funding vital for their continued growth and long-term viability (Aguiar, 2019, p. 4). Based on these observations, the following hypothesis is proposed:

H1: Access to financing through business incubation mechanisms significantly impacts the success of startups.

The Quality of Mentorship Programs

Mentorship is recognized as an evolutionary process that aligns with the growth trajectory of startups. A robust mentorship program provides sustained support and continuously strengthens mentor-mentee relationships, adapting effectively to the

evolving needs of startups as they progress through various stages of development (Aguiar, 2019, p. 5).

Successful mentoring develops the technical, managerial, and interpersonal skills of entrepreneurs to help them start their own businesses (Chahinez, 2023, p. 5).

The significance of mentorship is paramount, particularly during the initial phases of startup development. Mentors bring a profound wealth of experience and insights derived from their own success and challenges within the entrepreneurial landscape. Their guidance serves as a vital roadmap for new entrepreneurs, aiding in the strategic formulation and execution of business plans; moreover, mentors facilitate access to a broad network of collaborators, investors, and industry specialists, expanding the entrepreneurial horizon for newcomers. Beyond professional guidance, mentors also provide emotional support, offering solace and understanding in the high-pressure environment of startup development, thus mentorship extends further into practical realms, enhancing the entrepreneurial skill set with hands-on advice and strategies for navigating the business world (Robinson, 2022, p. 630).

Based on this understanding, the following hypothesis is posited:

H2: The quality of mentorship programs within business incubation mechanisms plays a critical role in enhancing startup success.

Collaborative Environments

Startups that are part of incubation programs benefit immensely from the communal infrastructure provided within these settings. This includes access to shared workspaces, office amenities, meeting rooms, tools, equipment, and, in the case of university-affiliated incubators, research laboratories. The physical proximity of various startups, each working on disparate projects yet within the same incubator, naturally fosters a culture of idea exchange, continuous learning, and mutual collaboration, and this closeness facilitates an environment where problem-solving and innovation thrive through the diversity of thought and brainstorming sessions actively promoted by the incubation facilities. The collective intelligence and shared experiences within these environments prove invaluable, enhancing the developmental prospects of all resident startups (Adeleke, 2019, p. 45).

Accordingly, the following hypothesis is proposed:

H3: Collaborative environments within business incubation mechanisms significantly contribute to the success and sustainability of startups.

Networking

Business incubation mechanisms play a crucial role in orchestrating and nurturing relationships among entrepreneurs and their peers, as well as between entrepreneurs and other vital stakeholders within the entrepreneurial ecosystem. These mechanisms enhance a startup's access to broader external networks by organizing networking events, forging partnerships with investors or academic institutions, and leveraging the personal networks of incubator managers and mentors. Such initiatives are instrumental in amplifying a startup's visibility and operational capacity within the market (Van Weele, 2018, p. 1165). Hence, the following hypothesis is introduced:

H4: Enhancing a startup's networking opportunities substantially increases its chances of success.

Case Study - Methodology and Data

Methodology

In addressing the research problem and exploring the theoretical underpinnings of business incubation mechanisms and their influence on the success and sustainability of startups, this study adopted a descriptive-analytical methodology. This approach involved a comprehensive collection, examination, and analysis of data sourced from a wide range of references, including scholarly articles and authoritative books on the subject matter.

To delve deeper into the practical implications and real-world applications of these theoretical insights, the study employed a mixed-methodology approach that combined both quantitative and qualitative research methods. This methodology was crucial in capturing the complexities of the topic and facilitating a robust interpretation of the research findings. (Tritoasmoro, 2024, p. 185)

A specific statistical technique used in this study was multiple linear regression, which was applied to examine the relationships between independent variables, namely, access to funding, the quality of mentorship programs, collaborative environments, and networking, and their collective impact on a critical dependent variable: the success of startups, defined here as the ability of a startup to survive in the market for at least three years' post-incubation.

Quantitative data for this study were meticulously gathered and processed from the databases of the INNOEST COMPANY business incubator in Tebessa and the university business incubator at the University of Tebessa. These institutions were selected as primary case studies due to their prominent roles in the regional startup ecosystem. Data processing and analysis were conducted using the Statistical Package for the Social Sciences (SPSS), Version 26.

To complement the quantitative analysis, structured interviews were conducted with a selected group of graduates from both incubators. These individuals had successfully founded startups that not only survived but thrived beyond the incubation period. Additionally, interviews were held with incubator managers and mentors, totaling 12 respondents.

The primary aim of these interviews was to gain insights into the specific services and practices offered by the incubators, assessing how these contributed to the startups' post-incubation success and longevity. Interview questions were carefully crafted to align with the study's hypotheses and to extract detailed information on the effectiveness of the incubation services provided.

Study Data

Quantitative Data

The research leveraged data from the INNOEST COMPANY business incubator, which is recognized as the pioneer business incubator in Eastern Algeria with its base in Tebessa. It also utilized data from the university business incubator at the University of Tebessa. The data encompassed records from the years 2021 and 2022, focusing on graduates who achieved the status of "Innovative Project" or "Startup." This designation indicated that these entities had been operational for a minimum of three years following their graduation from the incubator, thus meeting a key criterion for inclusion in the study. Data collection covered 30 companies that had successfully completed the incubation program and had graduated with the designation of either "Innovative Project" or "Startup."

Table no. 3 – Companies awarded the designation of "innovative project" or "startup" in 2021 and 2022

Project Name	Project Description	Specialization
Innoponia	A hydroponic farming project using AI technology.	Agriculture
Snailligent	A smart farm for snail production.	Agriculture
Transgo	An electronic application for transporting goods across the country.	Transportation
Nutrisect	Production of alternative protein feed for animal consumption.	Aquaculture
Presto	An electronic application for transporting people, goods, and food.	Services

Cooknero	An app aimed at cooking enthusiasts.	Technology
Bus time	An app for booking travel tickets.	Transportation
Smartbinx	A smart waste bin.	Environment
Farpan	Recycling palm fronds to produce wooden boards.	Agriculture
Kilial	Production of medical ethanol.	Pharmaceutical Industry
Rapi-bus	An app for booking bus travel tickets.	Transportation
Innoest technology	Production of an oxygen generator.	Industry
BZbooking	A digital app for hotel reservations.	Services
Drivemmes	An app for women's transportation.	Technology
I Pro Booking	An electronic booking platform specializing in tourism and hospitality.	Tourism Services
Tender Travel Boumendjel	An app in the field of health tourism.	Health Tourism
Bricool	An electronic platform connecting craftsmen and customers.	Services
FabroZit	A smart oil press.	Agriculture
Tourineta	A 3D digital archive of archaeological artifacts.	Tourism
Raqin	A digital platform for digitizing teachers' daily tasks.	Educational Technology
Agri Life	Recycling waste.	Environment
Idara Tech	An electronic app linking administrative bodies for digital administration.	Digitization
Marouvesty	Recycling used clothing.	Green Technology
Aqua Safro Tech	Biological saffron cultivation through aquaponics.	Agriculture

T-Tour	A digital platform to promote tourism.	Tourism
Orgacohol	Services.	Services
Sarl Saighi	Services.	Services
Qualif Plus	Technology.	Technology
Miramed	An app for booking medical appointments.	Health

Source: Compiled by the researchers based on the incubator databases.

Qualitative Data

The qualitative dataset was derived from comprehensive interviews with a cohort of startup founders who completed programs at two distinct incubators, alongside conversations with the respective managers and consultants affiliated with these incubators.

Each structured interview spanned roughly 30 minutes and commenced with an elucidation of the research goals, followed by an invitation for interviewees to introduce themselves and describe their startup or the incubator's role. The interview protocol was designed around the core research question: assessing the quality and efficacy of the support and services rendered within these incubation programs. We encouraged interviewees to elaborate on their answers, thereby facilitating deeper inquiry into the nuances of their experiences.

Questions to incubator staff focused on the modalities of support for startups, whereas entrepreneurs were queried about the nature, timing, and reception of the support they obtained. Initially, inquiries were open-ended to capture a broad understanding of the support landscape, subsequently narrowing to more targeted questions regarding their assessments of the support's effectiveness.

Study Variables

The study employs four independent variables to represent the array of services provided within the incubation programs, namely: access to funding, quality of mentorship programs, collaborative environments, and networking opportunities. The sole dependent variable is the success of startups, operationalized as the duration for which each startup remains operational following their graduation from the incubation program, extending for a minimum of three years.

Independent Variables

Table no. 4 – Independent *Variables.*

Code	Variable	Evaluation
X1	Funding Access: The extent to which the incubated company benefits from the funding provided by the incubator and its connection to other funding sources.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good
X2	Quality of Mentorship Programs: Provided within the incubation mechanism.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good
X3	Collaborative Environments: Marketing, offices, secretarial services, communication with other companies within the incubator.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good
X4	Networking: Building internal relationships with companies within the incubator and external relationships with investors and funders.	1: Weak, 2: Below Average, 3: Sufficient, 4: Good, 5: Very Good

Source: Compiled by the researchers.

Dependent Variable

Represented by Y, the success of startups, defined as the continued activity of the startup after graduating from the incubation program for no less than three years.

Results

Descriptive Statistics and Correlation Coefficient

The data reveals an average startup survival rate of 0.33, signifying that only 33% of startups manage to sustain operation for at least three years' post-incubation. This statistic highlights the challenging nature of post-incubation survival in the startup ecosystem.

Table no. 5 – Descriptive statistics and correlation coefficient

No.	Variables	Correlation Coefficient	Mean	Standard Deviation	Response Rate
1	Access to Funding	**0.664	3.206	0.179	Sufficient
2	Quality of Mentorship Programs	0.788**	3.806	0.276	Good
3	Collaborative Environments	**0.718	3.778	0.291	Good
4	Networking	0.701**	3.870	0.380	Good
5	Overall	-	3.665	0.281	Good

Source: Prepared by the researchers based on SPSSv26 outputs.

Table 5 delineates the mean values, standard deviations, and correlation coefficients among the studied variables. It underscores that while 33% of startups successfully navigated the post-incubation landscape, a stark 77% did not.

The analysis of descriptive statistics reveals that 'Access to Funding' garnered a mean score of 3.206 out of 5, classified as sufficient. Conversely, 'Quality of Mentorship Programs' and 'Collaborative Environments' were both well-received with mean scores of 3.806 and 3.778, respectively, each rated as good. 'Networking' achieved the highest mean score of 3.870.

The overall standard deviation stood at 0.281, indicating a relatively low variance among responses, which suggests a consensus in the perceptions of the support's efficacy among participants. Furthermore, the data exhibit robust correlations between the independent and dependent variables, suggesting that the factors studied are significantly associated with startup success.

Linear Relationship between Study Variables and Hypothesis Testing

The analysis of the linear relationships among study variables utilizes the Multiple Linear Regression (MLR) model, a robust statistical technique ideal for interpreting complex interactions and facilitating hypothesis testing (Tritoasmoro, 2024, p. 189).

Table no. 6 – Linear Relationship Between Study Variables

Variable	B	Std. Error	Beta	T	Sig
Constant	2.240	0.310	-	7.000	0.000
Access to Funding	0.420	0.250	0.350	3.133	0.006
Quality of Mentorship	0.750	0.130	0.470	7.084	0.000
Collaborative Environments	0.675	0.160	0.420	6.092	0.000
Networking	0.430	0.210	0.380	3.570	0.002

Source: Prepared by the researchers based on SPSSv26 outputs.

The constant in Table 06 represents the expected value of the dependent variable (startup survival) when all independent variables are held at zero. The significance value (Sig) under 0.05 indicates a statistically significant influence of the constant.

Hypothesis Testing

H1: Access to financing through business incubation mechanisms significantly impacts the success of startups.

The beta coefficient for "Access to Funding" stands at 0.350, suggesting a positive and substantive impact on startup success, corroborating that enhancements in funding accessibility proportionally augment startup viability. The significance value (Sig = 0.006) falls below the conventional threshold of 0.05, substantiating the hypothesis that access to funding significantly influences startup success.

H2: The quality of mentorship programs within business incubation mechanisms plays a critical role in enhancing startup success.

The analysis from Table 6 reveals a beta coefficient of 0.470 for "Quality of Mentorship Programs," indicating a robust positive relationship with startup success. Each incremental improvement in mentorship quality enhances startup survival prospects by a factor of 0.470, reflecting substantial support for the hypothesis. The extremely low significance value (Sig = 0.000) further validates the critical role of high-quality mentorship in promoting startup endurance and success.

H3: Collaborative environments fostered by business incubation mechanisms are instrumental in the success and sustainability of startups.

From Table 06, the beta coefficient for "Collaborative Environments" is 0.420, affirming that collaborative practices within incubation settings significantly bolster

startup success. With a significance value of 0.000, the data robustly support the hypothesis that fostering collaborative environments substantially enhances the sustainability and success rate of startups.

H4: Enhancing a startup's networking opportunities substantially increases its chances of success.

The analysis of "Networking" reveals a beta coefficient of 0.380, illustrating a significant positive influence on the success of startups. This suggests that intensifying a startup's network relationships is positively correlated with its chances of survival and growth. The significance value (Sig = 0.002), being well below the threshold of 0.05, robustly supports the hypothesis that effective networking substantially enhances the success probabilities of startups.

Discussion

The findings of this study reveal a stark contrast between the survival rate of startups within the post-incubation period, at 33%, and those reported in more developed entrepreneurial ecosystems. For example, Criaco (2014) reported an 87% survival rate for university startups (Criaco, 2014), and Udisabacti (2022) found a survival rate of 57% (Tritoasmoro, 2024, p. 190).

This discrepancy suggests that although the business incubation mechanisms studied are staffed with qualified mentors and offer well-equipped facilities and comprehensive services, including legal and administrative support, marketing, market research, and event organization, the inherent challenges of the local entrepreneurial ecosystem in Tebessa and the broader Algerian context play a significant role in the lower survival rates observed.

Incubator managers have identified securing adequate funding for startups and attracting investors and venture capitalists as major hurdles. The preference of most investors for larger, more established companies due to the perceived risks and significant financial demands of startups exacerbates these challenges. Despite these obstacles, incubators are committed to providing critical early-stage funding to support the development of initial product prototypes. The disparity in survival rates necessitates a detailed examination and analysis of the entrepreneurial ecosystem in Tebessa and Algeria at large, to pinpoint the specific factors contributing to these outcomes.

The empirical evidence underscores the pivotal role of business incubator services in supporting startup longevity and success, albeit with varying degrees of impact. Among these services, the quality of mentorship programs was deemed most influential, followed by collaborative environments, networking, and access to funding.

Ranked as the most impactful, the mentorship programs at the INNOEST COMPANY incubator in Tebessa are meticulously designed to shepherd entrepreneurs through their startup journey. This encompasses comprehensive legal and administrative guidance, pivotal in navigating the complexities of establishing a startup. Entrepreneurs benefit from the intensive "Be an Entrepreneur" training program, totaling 192 hours, which covers critical topics, such as entrepreneurship fundamentals, market research, the stock market, and intellectual property rights. Furthermore, the university business incubator provides tailored training sessions on crafting a Business Model Canvas (BMC), registering on the "Startup.dz" electronic portal to attain the "Innovative Project" label, and preparing financial statements for startup graduation theses. These extensive training initiatives underscore why superior mentorship is instrumental in steering startups towards sustained success and viability.

Ranked second for its impact, both the INNOEST COMPANY incubator and the Tebessa University business incubator have committed to fostering collaborative environments. These shared workspaces, equipped with comprehensive office services, are designed to enhance communication among startup founders and facilitate the exchange of innovative ideas. Such environments are pivotal in promoting creativity and innovation, thereby significantly boosting the likelihood of startup success.

The incubators diligently work to integrate entrepreneurs with various pivotal stakeholders within the entrepreneurial ecosystem, including investors and governmental entities. This strategic networking aims to open new avenues for startups, enabling them to forge partnerships and expand their operations, which are essential for achieving sustained success. Despite the critical nature of networking, the prevailing lack of entrepreneurial culture in Tebessa and a general aversion to risk-taking dampen the investment rates in startups, presenting a substantial challenge.

While previous research has often highlighted access to funding as a paramount factor in startup success, investors in Tebessa remain cautious, largely due to the inherent risks associated with new ventures. Nonetheless, both incubators actively seek to mitigate these challenges by providing the necessary funding for the development of product prototypes, with the university specifically allocating budget resources or utilizing its innovation platform when required.

Conclusion

This study underscores the pivotal role of business incubation mechanisms in fostering the success and longevity of startups by examining the impact of essential elements, such as quality mentorship, collaborative work environments, effective networking, and accessibility to funding. By prioritizing these components, incubation

programs successfully cultivate a nurturing and resource-rich environment that addresses the comprehensive requirements of burgeoning enterprises.

Additionally, the research advocates for ongoing monitoring of startup performance following graduation to ensure their sustained success via continuous support and mentorship. It also calls for regular assessments of these startups' post-graduation performance and recommends that incubation strategies progressively emphasize enhancing direct communication between startups and their customers. This methodology will enable ongoing feedback and necessary product refinements, ensuring that offerings are more precisely tailored to meet market demands and customer expectations.

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