

Business Incubators: Exploring the Graduated Incubates Entrepreneurs' Experiences in the Context of Pakistan

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Abstract

Business Incubation centers (BIs) have emerged a popular tool for promoting entrepreneurship and economic development worldwide. The study adds to literature by exploring the dynamics and significance of incubation to help new entrepreneurs establish businesses. Specifically, this research delves into the experiences of graduated entrepreneurs from the National Incubation Center (NIC), an esteemed public Business Incubation (BI) center in Lahore, Pakistan. It is a crucial hub for innovation and entrepreneurial growth in the region. NIC provides a vital ecosystem where aspiring entrepreneurs and startups move to receive extended support, mentorship, and resources. The study aims to analyze the facilities offered by NIC and their result on the personal and practical lives of the graduated incubates. The research intends to determine the motivating factors for entrepreneurs to join Business Incubation Center, which comprise networking, mentorship, investment, learning, and personal development. This study employed a qualitative research design, and data collected through semi-structured interviews with 30 incubated entrepreneurs and analyzed thematically using the approach proposed by Braun and Clark (2006) and assisted by NVivo (version 12 plus). The study uncovers several challenges faced by graduated incubates, including a lack of anticipated networking and mentorship, inadequate financial support, insufficient technical assistance, a scarcity of sponsorship initiatives for entrepreneurs, a shortage of legal assistance, and the impact of the pandemic on the incubation process. The study's findings may help policymakers to recognize the most effective institutions and initiatives for supporting entrepreneurial growth and expansion, both domestically and internationally. Furthermore, regulatory support for entrepreneurs can reinforce existing institutional frameworks.

Keywords: Business Incubators, Graduated Incubates, Entrepreneurship, Pakistan.

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1. Introduction

Business incubation programs are essential, in the world of entrepreneurship. They offer startup resources like mentorship, funding opportunities, and networking events that contribute to their growth and success (Milne et al., 2021). A Business Incubation Center is an organization that provides early-stage companies and entrepreneurs with a range of support services. These include funding, mentorship, networking assistance, and office space to help them flourish (Martin et al., 2021). Research has shown that these programs significantly improve the survival and growth rates of startups. Business incubation has gained attention as a research field due to its importance in fostering competitive business development (Cordero & Martínez Romero, 2022). Additionally, Business Incubators (BIs) play a vital role in encouraging the establishment of businesses within conducive environments. This not only creates employment opportunities at the level but also drives economic development nationally (Lesáková, 2012). BIs also provide support such as funding, skill enhancement programs, and various resources to help entrepreneurs launch and sustain their businesses until they become financially viable. By acting as a strategic tool, BIs play a role in fostering the growth of a country's entrepreneurial ecosystem. They help reduce the failure rates of startups and medium-sized enterprises (SMEs) ultimately contributing to poverty alleviation (Abdulsalam et al., 2021). However, incubated ventures often face challenges that hinder their success. These obstacles include limited access to funding, inadequate infrastructure, a lack of mentorship and limited visibility in the market.

The National Incubation Center Lahore (NICL) is housed within the Lahore University of Management Sciences (LUMS) and is one of Pakistan's leading institutions with a track record and ambitious plans for the future. NICL acquires funding and support from the Ministry of Information Technology and Telecom as Fatima Ventures. Its primary purpose is to contribute to Pakistan's development by encouraging entrepreneurship among young people and low-income communities at risk of social and financial exclusion.

NICL offers a state-of-the-art facility fitted with cutting-edge technologies and hardware to nurture ideas. The center assists startups, in an environment of growth. These services include working spaces that encourage collaboration mentorship from experienced industry professionals as well, as multiple training programs, seminars and workshops aimed at developing entrepreneurs' skills. It serves as a platform, for startups to connect with investors and venture capitalists. Furthermore, NICL networking events offer opportunities for startups to connect with partners, professionals and customers. They take a hands-on approach in providing support to startups during their incubation phase helping them refine their business models and strategies. This study examines the impact and effectiveness of NICL in promoting entrepreneurship and analyzes how the services provided contribute to the success of the startup ecosystem in the region.

While some research has focused on the challenges faced by startup incubates, there is a significant gap in the literature when it comes to understanding their experiences and specific challenges related to incubation (Sousa et al., 2021). Existing studies have not explored issues such as access to funding, lack of mentorship and

inadequate infrastructure that incubates encounter particularly during the post-incubation phase when they face various challenges transitioning from the incubation phase into the real world. Exploring these incubation challenges is crucial as they can significantly impact a business's long-term sustainability. Factors like lack of resources and support, after completing an incubation program make it challenging for startups to maintain their growth trajectory.

Additionally, startups often encounter a rise, in competition and market saturation which poses challenges in establishing their selling proposition and finding a niche. Moreover, the lack of access to networks and mentorship makes it challenging to seek support and guidance when faced with difficulties (Huang, 2021). Consequently, further research is needed to gain an understanding of the specific challenges faced by incubated startups and identify potential solutions to address them.

The study aims to explore the experiences and challenges encountered by entrepreneurs during and after their incubation period. The objective is to identify the factors that contribute to these challenges and propose solutions. The research endeavors to enhance the long-term sustainability and success of incubated startups ultimately fostering economic growth and development. Additionally, it will assess the effectiveness of business incubation programs in supporting the success of startup ventures.

It is worth noting that despite studies on the effectiveness of incubation centers and associated difficulties, there exists a dearth of data and academic investigations that directly consider the perspectives and experiences of entrepreneurs who have been through an incubation program. To bridge this gap this study collects firsthand feedback from business owners who have participated in an incubation center. Harnessing knowledge directly, from these entrepreneurs' experiences can yield great benefits.

The findings offer insights, for both private sector and academic institute-based incubation centers enabling them to better understand the impact of their training, support, and their efforts of launching the startup. Moreover, they provide information for business incubators and policymakers, helping them refine and enhance their programs and policies that can ultimately foster an environment for startups and increase their chances of success, which has positive implications for the overall economy. The following are research questions addressed in a literature review;

- What motivates individuals to join an incubation program?
- What challenges do incubates face after completing the program?
- How do incubates perceive their experiences during the program? Are there any areas where services may be lacking?
- Is there a gap, between incubates expectations of the program and their actual experience?

2. Literature Review

Entrepreneurship is increasingly acknowledged as a catalyst, for growth and job creation (Huang, 2021). To achieve growth and enhance earnings, it is crucial to invest in human capital. This can be accomplished by promoting entrepreneurship education and fostering job prospects that cultivate a productive workforce (Kausar & Sherazi 2017). Research has emphasized the economic advantages of entrepreneurship such as

generating employment opportunities that contribute to the growth of the economy (Jones et al., 2021). Additionally, entrepreneurship fosters innovation by encouraging the development of ideas and products to address needs and existing challenges (Jafari & Eftekhari, 2021). Moreover, entrepreneurship can drive both economic advancement by empowering individuals and communities with new opportunities and resources, ultimately reducing poverty, inequality and social exclusion (Gao & Yang 2021). Lastly, entrepreneurship enhances competitiveness by motivating enterprises to enter the market, compete with established firms, stimulate innovation, and lead to product quality while offering lower prices for consumers and the economy at large (Sun et al., 2021). According to Spigel's definition (2017), entrepreneurship is a process that involves exploring opportunities and also utilizing those opportunities, to create goods and services. This process relies on identifying prospects, reliably assessing them and effectively managing resources.

Business incubators play a role, in supporting entrepreneurs as they identify and pursue business opportunities. These incubators provide resources and assistance to aid in their development. Entrepreneurship has been a driver of growth with many successful businesses starting as small startups. However, starting a business can be challenging. Entrepreneurs often require support and resources during the early stages of growth. Choto (2015) highlights the importance of providing support and favorable business conditions to help startups make contributions to job creation and economic growth. Unfortunately, both startups and existing businesses face failure rates despite their role in job creation (Lose & Tengeh 2015). To tackle this challenge business incubators are essential for nurturing these businesses towards self-sustainability. Business incubation refers to facilities or organizations that offer resources and support services to help young small firms quickly develop into fledged businesses (Hughes et al. 2007). These incubators provide services such, as workspace, capital funding, coaching, shared services and networking opportunities to promote the growth and success of entrepreneurial companies (Entrepreneurs Small Business Encyclopedia, 2020). The objective of business incubators is to expedite the development of entrepreneurs and organizations by offering support services and networking opportunities (Osagie et al., 2021).

Recently, there has been a rise in the number of individuals venturing into entrepreneurship. This rise can be due to the availability of training programs and awareness initiatives, such as business plan contests and entrepreneurial events. As a consequence, there has been witnessed a wave of ideas emerged and attained prominence (Qureshi et al., 2020). Research indicates that business incubation centers play a part in expanding a nation's pool of entrepreneurs. They help reduce the failure rate of startups and small businesses, subsequently reducing poverty (Masutha & Rogerson, 2014; Ogutu & Kihonge, 2016). Furthermore, businesses set up through these centers lead to job opportunities and economic development (Lesáková, 2012). Considerable studies have underlined the contribution made by business incubation centers towards backing ventures' success and encouraging sustainable entrepreneurship (Ratinho et al., 2020; Zainuddin et al., 2020; Soetanto et al., 2021).

Business incubators offer support services to startups during their initial stages. These services encompass guidance, provision of office spaces and infrastructure, training programs, technology transfer facilitation, consulting services, and networking opportunities. Also, assistance in securing necessary funding for business growth (Niu et al., 2021). According to Khan (2022), Business Incubations (BIs) offer services that are classified into three categories: infrastructure, business support and guidance and networking opportunities. The quality and range of these services provided by incubators depend on factors such, as location, objectives, economic development strategy, access to services and employment creation (Al Mubarak & Busler 2014). However, it is worth noting that the failure of an incubator can be attributed to factors such as lack of expertise inadequate planning, and insufficient thoroughness (Anderson, 2012). The success of a Business Incubator also relies heavily on the availability of funds, for business assistance programs (Sahut et al., 2011). Furthermore, the success of a business being incubated greatly depends on how the incubation staff understands their client's needs and caters to them (Sherman, 1999).

One crucial service provided by incubators is mentorship and coaching. Research has indicated that entrepreneurs who receive mentorship are more likely to succeed in their ventures (Lee & Osteryoung 2019). Additionally, incubators offer networking opportunities which have been identified as a factor in the success of businesses (Chang et al., 2020). Business incubators play a role, in supporting entrepreneurs by connecting them with mentors, investors and industry professionals. They also provide resources, collaboration opportunities, and access to funding (Bøllingtoft et al., 2020). Although the specific services offered by business incubators may vary based on their customers, services and organizational structure, Lesáková (2012) and Niammuad (2014) agree that their main goal remains consistent; to accelerate the growth of entrepreneurs and startups by offering support services and extensive networks for long term sustainability (Osagie et al., 2021).

David B. Audretsch's seminal work on entrepreneurial ecosystems in cities, as presented in "Entrepreneurial ecosystems in cities: Establishing the framework conditions" (Audretsch & Belitski, 2017), delves into the intricate dynamics that shape entrepreneurship. He emphasizes the significance of creating framework conditions while also highlighting the importance of studying and analyzing the experiences of graduates from incubation centers. This research sheds light on how incubation centers like NICL, contribute to the ecosystem in Pakistan's city of Lahore and how these conditions impact entrepreneurs in their incubation and post-incubation phase. Scott Stern's research, titled "The Role of Innovation, in Entrepreneurship; Building Communities, Networks and Markets" (Stern, 2014) aligns perfectly with our exploration into the experiences of graduated incubates. Inspired by Stern's findings the focus of the study is to delve into how the incubation process fosters both innovation and network building among those who have graduated from an incubator program. Through exploring these aspects alongside incubation challenges, the study aims to gain a comprehensive understanding of all the dynamics at play within the entrepreneurial ecosystem in Pakistan.

To conclude, entrepreneurship and business incubation are drivers of economic growth, job creation, and innovation. Entrepreneurship contributes to economic development by generating employment opportunities, empowering individuals and communities well, and enhancing competitiveness. Business incubators provide support services to startups and small businesses including infrastructure assistance, mentorship programs, networking opportunities and access to capital. These services greatly assist entrepreneurs in overcoming challenges and reaching their growth potential while also increasing their likelihood of success. While the success of business incubators relies on planning, expertise and adequate funding, the positive impact they have on fostering entrepreneurship and contributing to economic development has been well documented.

3. Methodology

In this study, the researcher adopted an interpretive research approach, placing emphasis on qualitative understanding and information. However, given the broad nature of the research, additional philosophies were employed to improve the coherence, reliability, and openness. To dig deeper into the experiences, motivations, and perceptions of entrepreneurs in BIs, particularly those challenging structural and ethical assumptions, the researcher employed Phenomenological research methods.

The targeted sample for this study was the National Incubation Center Lahore (NICL) in Pakistan, with individual entrepreneurs serving as the primary unit of analysis. Data involved conducting semi-structured interviews with business incubated entrepreneurs. The interview guide was developed by identifying major themes from literature. The data from interviews was analyzed using Braun and Clark's (2006) thematic analysis. To explore the experiences of graduated incubates Thematic analysis was selected as the research method due to its flexibility in uncovering diverse and in-depth narratives. This approach allowed for a thorough examination of both anticipated and emergent themes to ensure a comprehensive understanding of individual incubation experiences. It allowed exploring perceptions and meanings associated with these experiences, offering valuable insights to the factors influencing the incubation process.

The researcher extracted first-order, second-order, and aggregate codes and categories by identifying similarities and differences among the responses from the interviewees. A total of 30 semi-structured interviews were conducted using purposive and snowball sampling techniques. Ethical considerations and confidentiality of personal details were prioritized and maintained. The decision to conduct 30 interviews aimed to achieve data saturation, where no new themes or insights appeared as the interview progressed, indicates a comprehensive understanding of the subject topic. This sample size was carefully chosen to thoroughly explore diverse perspectives and enhance the study's credibility by avoiding unnecessary redundancy in the data. The participation of individuals from diverse backgrounds further contributed to the robustness of the study. Data was recorded in the language used by the informants and later transcribed verbatim.

Table 1: Demographic profile of respondents

Demographic variable	Frequency	Percentage
Gender		
Male	18	60%
Female	12	40%
Age		
25-30	12	40%
31-35	10	33%
36-40	8	27%
Education		
Intermediate	4	13%
Bachelors	15	50%
Masters	8	27%
MBBS	3	10%
Industry Focus		
Retail and Ecommerce	8	27%
Healthcare	6	20%
Financial services	5	17%
Marketing	4	13%
IT Services	5	10%
Fashion Design	3	17%

4. Data Analysis and Findings

Following the completion of the coding process, the resulting data were subjected to thorough analysis and interpretation using identified categories. The software utilized for coding was NVivo 12 Plus. To provide additional support for the categories or themes, relevant excerpts of the interviews were also included during the data analysis stage. Drawing upon the collected data, the present research has identified and delved into several significant themes.

Table: 2: Tabular View of Themes and Sub Themes

Themes	Sub themes
Criteria selection of Incubation centers	Personal abilities Startup plan
Incubation Experience	Personal Impact Emotional Impact Professional Impact
Motivation for joining Incubation Center	Personal grooming Resource collection
Post Incubation Challenges	Lack of facilities Lack of expected networking Gap in expectations Lack of legal assistance Lack of technical support Gender wise challenges Pandemic challenges in Incubation

4.1. Selection Criteria of Incubation Centers

This study has identified two categories that incubation centers consider when selecting candidates: abilities and startup plans. Personal abilities were further divided into three themes: a desire for learning, effective communication skills and presentation skills. Based on the interviews conducted it was found that most participants believed that incubators prefer individuals who're highly motivated to learn since successful entrepreneurs are always eager to expand their knowledge. Additionally, the importance of communication and presentation skills for entrepreneurs was highlighted as Incubates should have this skill how to effectively their business ideas to other people and sponsors as expressed by one interviewee (R1). *"NIC places emphasis on communication skills within its environment, which influenced their decision to choose NIC. This emphasis on communication is recognized as significant for entrepreneurs, in conveying their ideas to staff members, team members, clients and potential investors."*

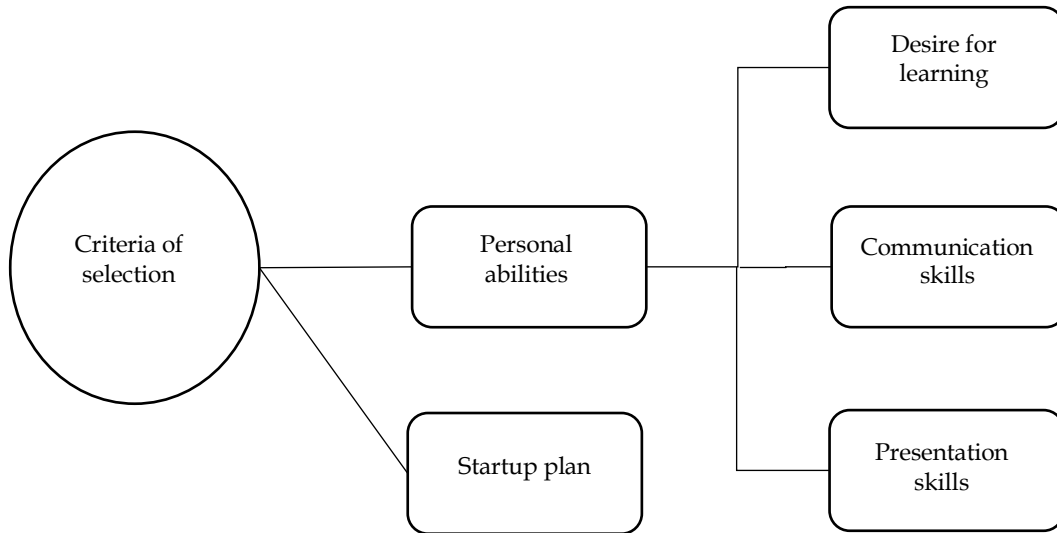


Figure 1: Hierarchical Map of Selection Criteria of Incubation Center

The study identified the startup plan sub-category as a significant determinant for selection, where incubates are chosen based on the viability of their startup ideas. The results indicate that service-based startups hold the greatest appeal for aspiring entrepreneurs, although hardware startups were also taken into consideration during the selection process. According to the respondents, the National Incubation Center Lahore (NICL) prioritizes individuals with strong startup plans that meet markets demand as said by one respondent (R3): *"In order to be accepted into NIC, it is crucial to have a promising startup idea and a background that aligns with incubation centers. Although there were no set criteria for selection, our team was able to qualify for incubation at NIC Lahore due to our development of a facial recognition model. This model has proven to be successful and continues to be utilized by numerous individuals."*

One more respondent added (R2): *"The criteria on which I was selected were based on providing a service. I have noticed that most individuals who are accepted into incubation centers*

are selected based on their service-based ideas rather than product-based ideas.” The research findings highlight that the selection criteria for incubation programs depend largely on the type of startup and the strength of the startup plan. This information can be beneficial to aspiring entrepreneurs who are considering incubating their startups.

Figure 2 represents a word cloud retrieved from NVivo, providing further evidence in support of the researcher's argument. The word cloud highlights that a considerable number of respondents emphasized the importance of interest and startup in the selection criteria. This finding underscores the significance of these factors as key determinants in the selection process for incubates.

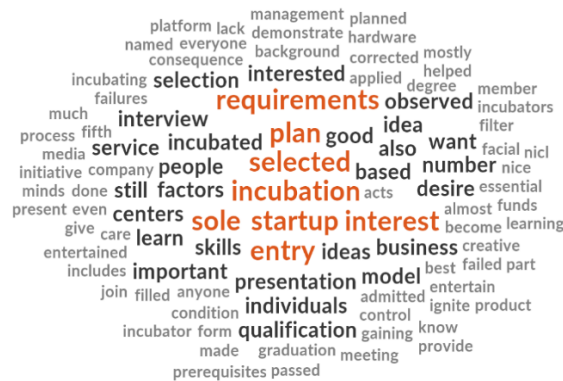


Figure 2: Word Cloud on Selection Criteria

4.2. Incubation Experience

The main goal of this study was to explore how entrepreneurs are affected by their experience in an incubation program. As a result three sub-themes were identified; emotional impacts, personal impacts and professional impacts.

Under the sub-theme of emotional impacts, the researcher classified the effects that had an emotional influence on the participants in the incubation program. These effects contributed to the development of emotional resilience among the participants and were used to assess their satisfaction with the incubation experience. The majority of those interviewed, expressed a level of satisfaction while a few individuals reported feeling dissatisfied or having a neutral experience. Furthermore, it was found that out of the 30 interviewees, 21 strongly recommended others to pursue an incubation experience. One respondent (R5) expressed this sentiment by saying; *"I highly encourage individuals to consider joining an incubation center before entering into the business world. This will allow them to gain knowledge and experience in aspects of business operations thereby increasing their chances of success in the market."*

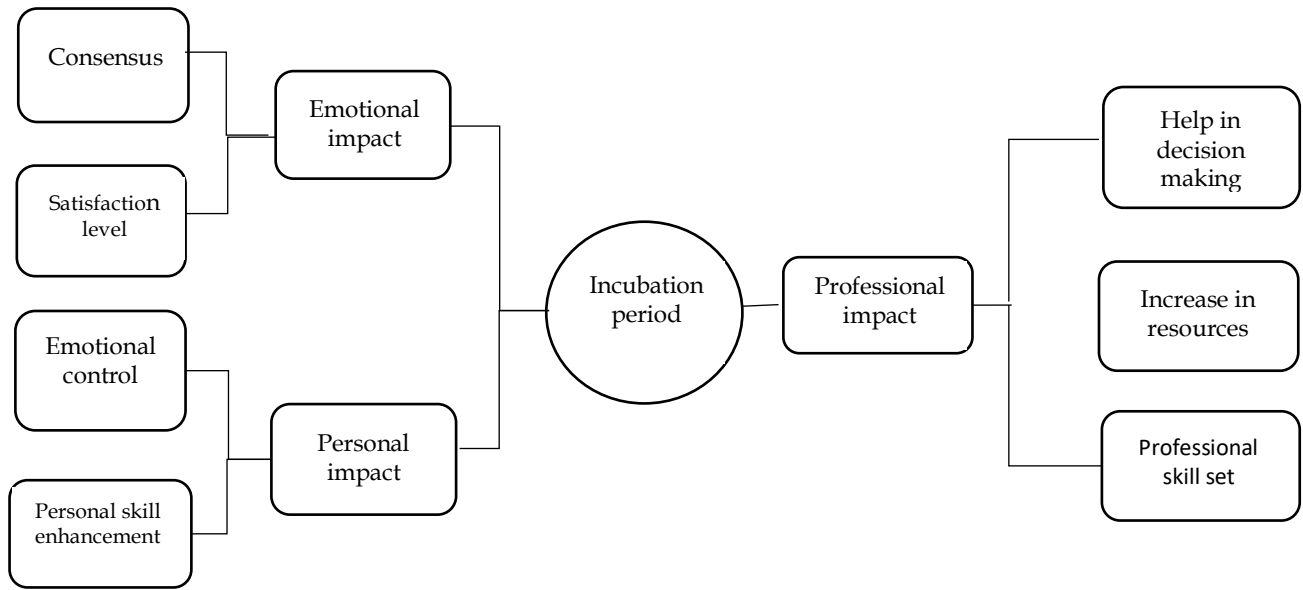


Figure 3: Hierarchical Map on Incubation Experience

The second sub-theme, personal impacts, identified the impact of the incubation experience on the incubates in terms of emotional control and personal skill development. The findings revealed that participating in an incubation program played a role in fostering mental resilience among participants. It helped them improve their ability to manage emotions, cope with anxiety and build confidence as one respondent (R3) explained; *"Yes I can definitely say that my time, in the incubation program has transformed me as an individual. During my six months stay, at the incubation center I learned skills in managing my emotions, which has made me more capable of handling situations. Additionally, this experience has given me a confidence in myself and the ability to remain determined despite any challenges that may arise"*.

Under the sub theme, professional impacts, which focuses on impacts the study explores that how the incubation experience influenced the professional development of the participating incubates. The results revealed good outcomes in this aspect. The incubation experience provided increased access to resources, improved decision making abilities and enhanced professional skill sets. Moreover it facilitated the implementation of startup plans, analysis and correction of mistakes as the development of various skills such as determination, motivation, problem-solving abilities, punctuality and a better understanding of different perspectives. All these factors significantly contributed to the growth of those involved in the incubation program. One respondent (R14) highlighted their success by saying; *"I applied what I learned and achieved outcomes like productivity, a better focus on our target market segment and an increase in capital, for our business. Moreover, the incubation experience brought about a transformation, in my life. It resulted in changes in how I make decisions and even shifted my mindset"*.

To sum up the incubation experience had an influence on the personal and professional growth of those involved. This emphasizes the significance of incubation

centers in equipping entrepreneurs with the abilities and resources for their business endeavors.



Figure 4: Word cloud of Incubation Experience

The researcher's argument is further supported by the word cloud provided in Figure 4, which clearly demonstrates that most respondents expressed satisfaction with their Incubation experience, as well as a positive impact on their practical life.

4.3. Motivation for joining business incubation center

This finding aims to explore the key motivations of incubates for joining the incubation center and which are personal grooming and resource collection. In terms of personal grooming, incubates reported a desire to gain credibility and enhance their decision-making and communication skills and proving one's capabilities through self-efficacy as one of the respondents stated that (R21): *"My motivation was not to make money. Instead, I was motivated to gain credibility from being incubated. I believed that being associated with an incubation center would establish my reputation in the market and allow me to showcase my capabilities. Additionally, my motivation was to prove myself to others and demonstrate my potential. This was the driving force behind my decision to join NIC and start my own business."* Under the sub theme of resource collection incubates were motivated to gather resources such as investments, learning opportunities, networking connections and mentorship. They firmly believed that these resources would greatly contribute towards becoming successful and aspiring entrepreneurs. As one respondent stated (R22): *"My primary motivation for joining NIC was to receive mentorship and networking opportunities, and I am pleased to say that I received the best mentorship I could have hoped for. Compared to other students, my focus was on mentorship, whereas other students were more focused on investment. In my opinion, the mentors were the best in the business."*

Moreover, this study delved into the impact of incubation experience on the motivation levels of those being incubated. The findings indicate that most of the individuals interviewed reported an increase in their motivation levels after going through the incubation process at NIC Lahore. The experience surpassed their expectations, particularly in terms of opportunities for learning and growth. One respondent expressed (R12): *"After joining the incubation center, I experienced a boost in motivation due to the learning opportunities available. The skills I acquired were directly applied to my startup. Enrolling in the NIC incubation center was undoubtedly a wise decision as it fulfilled my thirst for knowledge enabling me to pursue my goals."*

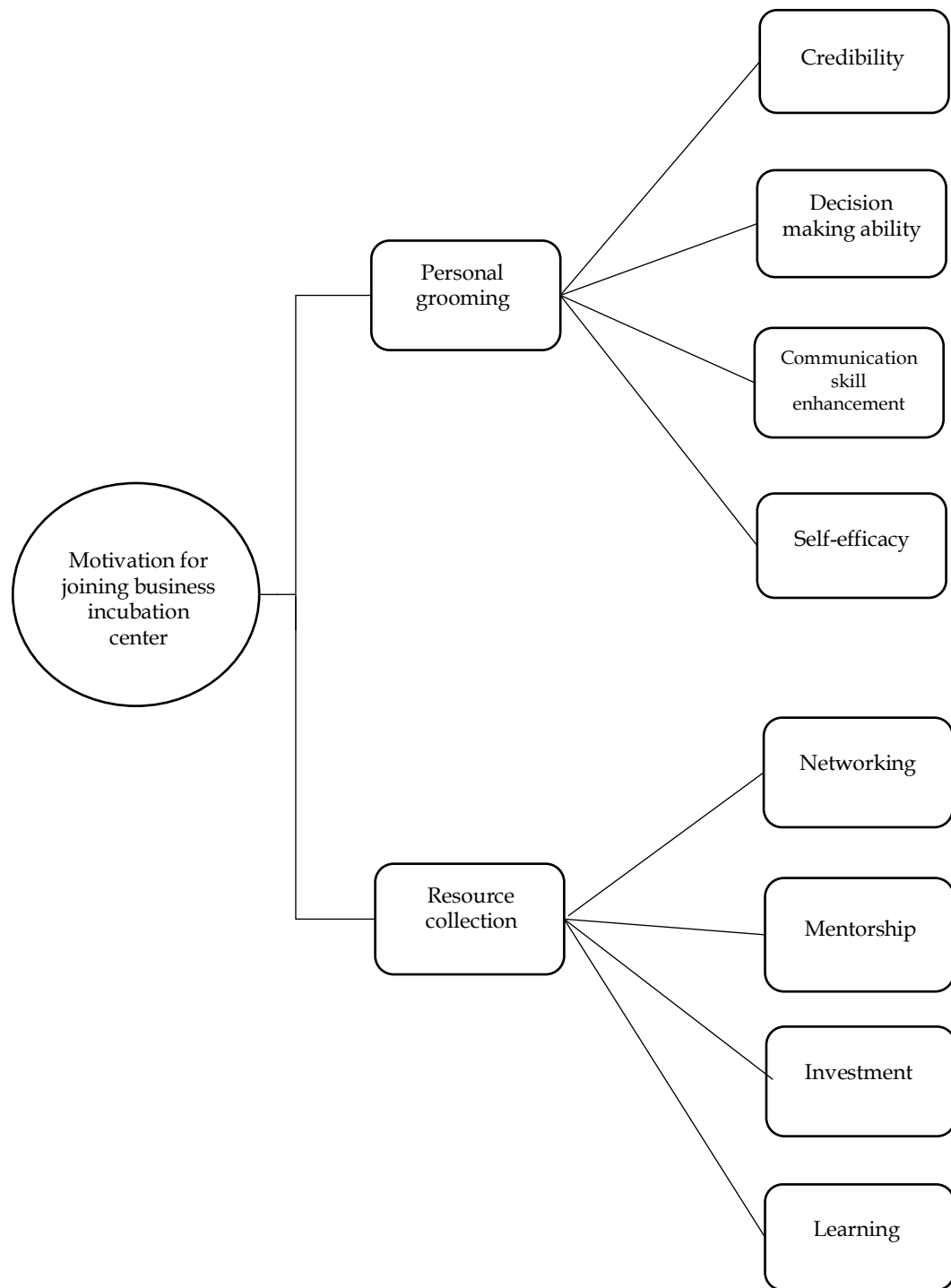


Figure 5: Hierarchical map of motivation for joining Business Incubation Center

Mentorship, networking, and problem-solving skills emerged as factors that positively influenced the motivation levels of those being incubated. Mentors and incubators played a role in keeping them motivated while networking opportunities facilitated coordination and maintenance of professional connections. As one respondent

pointed out (R29): "My motivation was significantly enhanced during my time at NIC, thanks to the networking opportunities provided. The connections I made allowed me to nurture and manage my contacts efficiently. Moreover, the mentors and coaches at NIC played a role in boosting my motivation. Their unwavering support and consistent guidance throughout my time in the incubation program greatly influenced my drive to succeed".

Furthermore the study revealed that only a small number of participants experienced a decline in motivation or felt no change in their motivation levels during or after the incubation period. These individuals attributed their diminished levels of motivation to the challenges they faced with investors. However overall the findings suggest that the incubation experience generally has a positive impact on the motivation of the incubates. One respondent expressed this sentiment by stating (R9); *"No, my motivation was not affected by my experience in the incubation program. The level of motivation within an incubation center can vary based on circumstances. Some of my peers who were also part of the program encountered demotivation due to networking and financial assistance issues. However I personally remained unaffected by challenges. Continued working diligently towards achieving my goals."* To summarize, this finding underscores how personal grooming and acquiring resources are factors that drive individuals to join an incubation center. Additionally, it highlights the significance of providing mentorship networking opportunities and problem-solving platforms to enhance both motivation and engagement among participants, within an incubation center. Moreover, the study suggests that incubation centers should aid incubates overcome any obstacles they may face throughout the incubation phase thereby maintaining their motivation level.

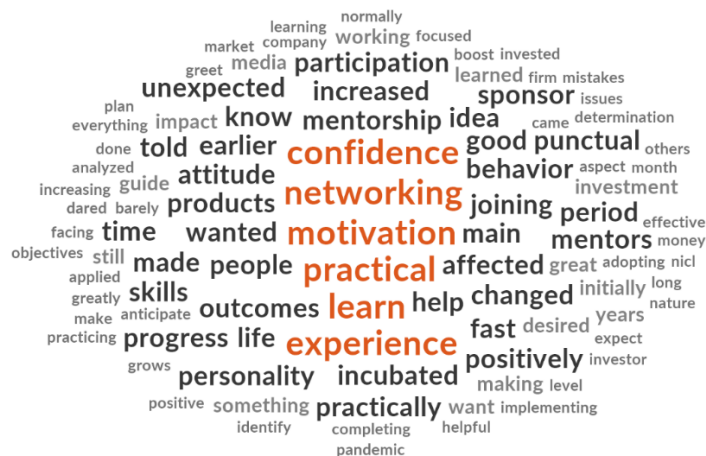


Figure 6: Word cloud on Motivation for Joining Business Incubation Center

The word cloud depicted in figure 6 provides further evidence in support of the researcher's argument, clearly indicating that a large proportion of the respondents have cited networking, confidence, learning, and mentorship as their motivations for joining the incubation center.

4.4. Post Incubation Challenges

Incubation centers play a role in supporting and guiding startups. Their main goal is to help entrepreneurs turn their ideas, products and services into businesses. However

throughout the incubation journey and even beyond, startups often face challenges. This theme categorizes these challenges into seven sub themes.

The first sub theme called "**Gap in Expectations**" reveals that some entrepreneurs expressed dissatisfaction with the incubation centers inability to meet their expectations. Issues such as communication, inadequate technical support and lack of assistance were identified as reasons for this gap in expectations. This finding emphasizes the importance of communication and providing sufficient support throughout the incubation period. One respondent (R7) stated; *"We experienced a difference between our expectations during the incubation phase and the actual launch of our startups. We encountered difficulties in receiving support from the incubator especially when it came to managing software systems that would have greatly benefited from a specialists expertise. Additionally effective communication posed a challenge for our team."*

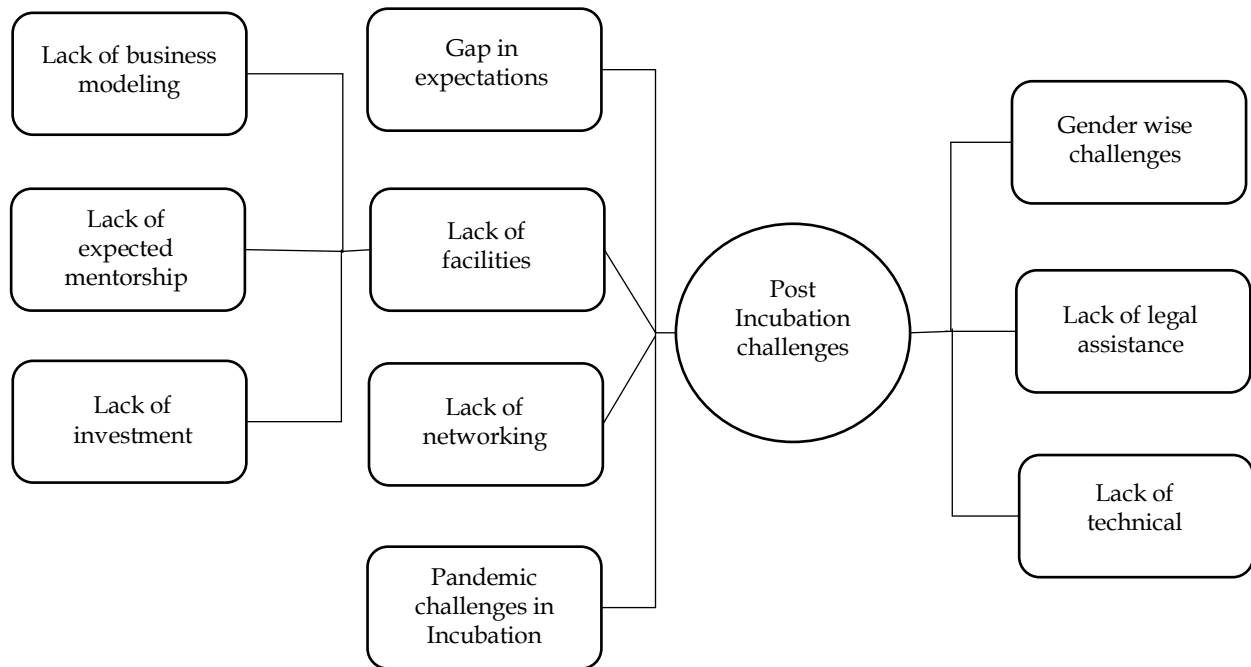


Figure 7: Hierarchical Map of Post Incubation Challenges

In the second sub-theme, "**Lack of Technical Support**," the study reveals that certain incubates expressed discontent regarding the lack of technical support due to the absence of knowledgeable technical specialists and a lack of focus on technological startups by the incubation center. Furthermore, the limited connections to possible investors and insufficient attention given to IT students further posed problems for the incubates, as highlighted by one of the respondents (R11): *"The individuals lacked understanding about the proper functioning of the platform and did not possess links to the investors available through the platform, despite being taught all the necessary things. Furthermore, they encountered challenges in the quality of IT education provided during the incubation period, as business professionals may not have had the requisite knowledge of IT, which is a distinct domain."*

The third sub-theme, "*Lack of Expected Networking*", highlights the importance of networking for entrepreneurs during their incubation phase. Previous research has primarily used quantitative methods to evaluate the usefulness of different incubation services. For instance, a notable study conducted by Hafeez et al. (2021) employed quantitative analysis to understand the effectiveness of networking services in incubation centers.

Table 3: Incubates' Satisfaction from Networking Services Adapted from Hafeez et al. (2021)

Paired samples T-Test (Networking)	Pair 1 (Networking Importance)	Values
Paired Differences	Mean	0.715
	Std. Deviation	1.14
	Std. Error Mean	0.196
	95% Confidence interval of the difference	Lower 0.316 Upper 1.11
	T value	3.650
	df	33
	Sig (2-tailed)	0.001

On the other hand, this study aims to explore how effective the networking services provided by the incubation center are by using qualitative approach. By adopting this qualitative perspective of analyzing the data, the study seeks to gain a deeper level of understanding of the effectiveness of these networking services by exploring the underlying insights and reasons that contribute to their impact. Based on the research findings, some incubates faced difficulties due to a lack of expected networking opportunities. The entrepreneurial ecosystem within the incubation center did not create an environment for networking leading to challenges for incubates even after their incubation period ended and when they entered in their practical life. As one respondent (R30) mentioned: "*I didn't find the networking opportunities provided by NIC (the incubation center) beneficial for my business career. Despite being in an environment meant for fostering entrepreneurship I felt that networking was lacking. The incubation center didn't offer support in terms of networking, which was disappointing considering it was one of my motivations for joining.*"

In relation to the fourth sub theme "*lack of Legal Assistance*" there was an inefficient or absence of proper legal support at the incubation center, posing a significant obstacle for many incubates. Startups and entrepreneurs faced difficulties when it came to legalizing their businesses due to the lack of support for drafting license agreements. This issue emphasizes the need for incubation centers to provide legal support or assistance that specifically caters to startups needs. One of the respondents (R6) expressed this need by stating: "*The incubators only offered an overview of matters, but it would have been more beneficial if they provided customized help with drafting license agreements. If they could offer proper legal assistance, it would greatly contribute to safeguarding intellectual property rights and benefit us in ways.*"

In addition the fifth sub theme, *"Lack of Expected Mentorship"* highlights the significance of mentorship for entrepreneurs during their incubation period. Previous studies have primarily taken the quantitative approach to evaluate the effectiveness of mentorship or consulting services. For instance Hafeez et al. (2021) conducted a study that utilized quantitative analysis to assess how effective mentorship services are, within the context of incubation centers.

Table 4: Incubates' Satisfaction from Mentorship Services Adapted from Hafeez et al. (2021)

Paired samples T-Test (Mentorship)	Pair 1(Mentorship Importance)	Values
Paired Differences	Mean	0.827
	Std. Deviation	0.988
	Std. Error Mean	0.169
	95% Confidence interval of the difference	Lower 0.482 Upper 1.170
	T value	4.881
	df	33
	Sig (2-tailed)	0.000

On the hand, In order to explore how effective the mentorship services provided by the incubation center are and to deeply understand their impact, insights and reasons that contribute to their effectiveness, qualitative approach is used.

The results of this finding reveal a lack of practical knowledge in mentorship. Respondents expressed their desire for mentors who can offer insights that are more practical to support them in their journey of becoming entrepreneurs. Moreover, there were concerns and more emphasis on fundraising than business growth and a lack of focus on management planning as highlighted by one respondent (R16): *"I believe that effective mentorship should come from individuals with teaching backgrounds as they are more likely to guide and support the incubates effectively. Having mentors who lack expertise in their fields can lead to inconsistency and negatively impact the relationship between mentors and incubates. It is crucial to have mentors with experience and expertise in order to ensure a mentoring experience."* Furthermore, respondents also mentioned the effects of having mentors who lack expertise in their fields. The COVID 19 pandemic has also hindered interactions with mentors. The need and importance of customized mentorship was also emphasized, as each startup has its distinct goals and visions that necessitate tailored strategies and support from the mentorship. One of the participants expressed this by stating (R27): *"We should have consultations to better understand our industry as not all businesses are identical. It would be beneficial to have customized meetings and mentorship instead of just receiving general information."*

Under the sixth sub-theme, *"Lack of Investment,"* explores that there is a challenge for the incubates in securing initial investment and pre-seed funding, which directly affects the operational capacity of incubates to run their startups. Respondents further recommended that investment or stipends could assist incubates in surviving and fostering the growth of their startups during the early stages. This finding highlights the

significance of incubation centers offering financial support to startups, as stated by one of the respondents (R15): *"The primary obstacle I encountered was the lack of sponsorship. To overcome this hurdle, I resorted to selling my products in the local market. Eventually, I was able to secure sponsorship, but it took some time. Unfortunately, there was no financial support available through incubation, which I believe should have been provided to facilitate the smooth operation of any startup."*

The seventh sub-theme, **"Gender-Wise Challenges,"** explores the unique obstacles encountered by incubates based on their gender during the incubation period. According to the findings, respondents noted that the challenges varied depending on the gender. Male incubates appeared to have an easier time engaging with fellow male incubators, while women were perceived to experience shyness when working with men. Furthermore, one female incubates reported facing distinct challenges in comparison to a male incubate, likely due to her household responsibilities, as one respondent expressed that (R18): *"Yes, approaching investors and persuading them to invest in their project can be a challenging task, particularly in Quetta where cultural norms may differ. They also mentioned that they worked with male staff members and experienced no issues. However, they acknowledged that some women may feel apprehensive about working with male colleagues."*

While others felt that challenges were not gender-dependent but varied from idea to idea as said by one respondent that (R11): *"In terms of discrimination, there were no reported incidents. The communication team consisted entirely of females, and they were able to coordinate with one another effectively. Their team dynamic was supportive and friendly, which some attributed to the absence of males on the team. I personally do not believe that the challenges faced differ based on gender; rather, it is a matter of dedication and commitment."*

This finding highlights the importance of incubation centers to provide equal opportunities and support for all genders. The COVID-19 pandemic also posted significant challenges to incubates during their incubation period, including the lack of physical interaction, extension of incubation periods, and limited access to facilities. The pandemic also prevented incubation centers from hosting workshops and lectures by mentors and guest speakers, which impacted the networking opportunities of some incubates as expressed by one of the respondents that (R2): *"Typically, the incubation period lasts around six months, but I extended mine to one year as I required office space and other resources that were not readily available due to the COVID-19 pandemic. The pandemic had caused a lot of disruption and challenges, including issues with communication, attention, and consideration. These were some of the challenges that I faced while incubating during the pandemic."* Another respondent added that (R16): *"As I mentioned earlier, our training and lectures were taking place during the COVID-19 pandemic, which made it challenging to use advanced technical equipment. Due to the pandemic, we were unable to access facilities such as office space. The limitations imposed by COVID-19 had a significant impact on our ability to utilize certain resources."*

In summary, this research paper explores seven sub-themes that shed light on the challenges faced by incubates throughout and following their incubation period. The findings emphasize the importance of incubation centers offering comprehensive support, clear communication, and equal opportunities for all genders. Furthermore, the

study highlights the significance of tailored mentorship, legal assistance, and financial support to promote the growth and sustainability of startups. The COVID-19 pandemic has further accentuated the necessity for flexible solutions and support systems that enables incubates to continue benefiting from incubation centers even in times of crisis.

5. Discussion and Conclusion

The primary goal of this study was to explore the experiences of people who have completed their incubation period. The findings revealed the challenges and opportunities these individuals faced during and after incubation. This discussion focuses on the key themes emerged from the data and their importance for incubation programs in Pakistan. The results of this study align with research on how incubation programs impact the development of startups. For instance research by León Darder (2021) revealed that such programs present great benefits for entrepreneurs. These benefits include, better communication skills, improved problem solving abilities, and boost in confidence. Similarly Zhou, Li and Wu (2019) found that incubation programs positively contribute to startups financial performance by providing them with help such as funding, networks and knowledge.

The present study emphasizes on the importance of quality mentorship provided to individuals in incubation period, who may not have access to it otherwise. Previous research also backs the significance of mentorship as a component of incubation programs. For example, Wang and Huang (2021) identified that mentorship has an influence on startups growth and success by offering guidance, feedback, and support across all business aspects. Likewise, a study by Hoang et al. (2020) found that mentorship plays an important part in helping entrepreneurs overcome challenges and improve their decision-making skills. The finding of the present study also emphasizes the importance of customized mentorship. Aspiring entrepreneurs who have completed an incubation period to actively pursue mentors who can effectively address the specific problems identified in the businesses. Such initiatives can eventually nurture their development both personally and professionally.

The research addresses the significance of networking during the incubation period, aligning with the prior study emphasizing its value for startups in Pakistan (Ahmed & Raza 2021; Munir et al., 2020). It also highlighted the need for more structured networking opportunities for individuals without existing networks. Entrepreneurs are encouraged to utilize networking platforms provided by incubation centers as they offer links with industry experts, potential collaborators and investors that particularly improve prospects after completing the incubation period. The research identifies support from incubation programs as a contributing factor to individuals success—a perspective that aligns with prior studies highlighting the importance of programs in encouraging startup growth in Pakistan (Munir et al., 2020; Ali & Alam 2018). However it is crucial to emphasize the need for customized support specific to participants needs coming from diverse backgrounds.

Post incubation assistance is a factor identified for the long term success of startups. Various studies have emphasized the challenges that businesses faces in sustaining themselves after completing an incubation program (Saeed et al., 2018; Ali &

Alam 2018). The study identifies the importance of providing support to startups after incubation period including, access to mentorship, funding and networking opportunities. The previous studies have also documented the post incubation period challenges including a lack of networking resources and legal guidance. For example, the findings by Akinola and Akingbade (2021) discovered that startups often struggle to access resources such as funding and networks once they graduate from incubation programs. Similarly Rajesh and Venugopal (2021) uncovered that startups face difficulties related to regulatory and legal compliance that can hinder their growth and overall success.

The unforeseen challenges posed by the COVID 19 pandemic impacted the startups throughout their incubation period. The limitation of physical interaction, prolonged periods of incubation and restricted access to facilities have presented barriers for the Incubates. These disruptions affected networking opportunities essential to connect with industry experts and potential collaborators. The restrictions brought about by the pandemic have underscored importance of resilience in navigating unforeseen situations during all stages of business expansion. It shows the importance of being adaptable during the different entrepreneurial journeys for present and future Incubated entrepreneurs. To better equip entrepreneurs to make a significant impact in this landscape moving forward, researchers and policy makers can explore alternate methods to facilitate networking like virtual networking and offer support systems.

In summary this research paper delved into the experiences of entrepreneurs who have completed incubation programs in Pakistan. The study emphasizes how business incubation plays a role in fostering innovation, economic growth and job creation. The findings indicate that the quality and range of services provided by incubation centers have an impact on the experience of entrepreneurs undergoing incubation. Therefore it is recommended that these centers focus on enhancing their service quality to meet the needs of their incubates. The findings reveal that participating in an incubation program has an impact on both professional and personal growth for those involved. It enables them to build confidence, emotional resilience and better skills in managing their emotions and anxiety levels. The study highlights the importance of mentorship networking opportunities and problem solving support in keeping entrepreneurs engaged and motivated throughout their journey. Additionally providing customized mentorship can enhance the learning experience for these individuals coming from diverse backgrounds.

However the study also identifies challenges faced by entrepreneurs after completing their time in an incubation program such as lack of access to support networks and legal assistance and technical assistance. These obstacles can hinder business progress significantly and can have an impact on overall achievements. The research indicates that overcoming these challenges and supporting startups beyond the phase of incubation can be achieved by offering guidance, practical knowledge, and access, to investment and funding opportunities. Moreover the study highlights the difficulties faced by entrepreneurs in incubation centers due to the COVID 19 emphasizing the importance of overcoming these obstacles.

To summarize this study has implications for shaping and implementing incubation programs in Pakistan. It emphasizes the need for continued aid to graduated incubates to help them overcome hurdles and achieve success in their endeavors. Furthermore this research is valuable for countries dealing with the similar situations while also adds to the existing literature on this subject.

6. Recommendations and Implications

The findings of this research paper provide several key recommendations for improving the effectiveness of business incubators in Pakistan. Firstly, it is advised that incubators offer practical field or market exposure to their incubates, enabling direct interaction with customers. Customized mentorship from experienced professionals, tailored to the specific needs of each startup, is crucial for fostering growth and success. Policymakers should focus on creating structured mentorship that provide personalized guidance to entrepreneurs, supporting their ongoing development beyond the incubation phase.

The key is to recruit skilled technical support staff to ensure high-quality services in the incubation programs. Incubators should pivot their focus from only raising funds to the broader goal of developing and expanding businesses. Increasing the period of training, workshops, and investment summit sessions is advised. Market integration initiatives could be vital in connecting startups with their target audience, improving their market presence. Providing proper legal assistance to steer through the complexities of business regulations and formalities is crucial for incubates. New and vulnerable startups should be given special attention and support to foster their growth and sustainability. Developing tailored management plans for each startup is essential to optimize their chances of success. To address immediate financial issues for early startups, stipends and seed money can make a significant difference. Providing equal sponsorship opportunities for all selected startups is vital to create a fair and competitive incubation atmosphere.

Lastly, business incubators can extend their support and mentoring beyond the incubation period, helping startups until they successfully launch in the market. In order to measure the satisfaction of individuals and success of their business, conduct frequent assessments check. These assessments will assist in improving the quality of services of business incubators. To sum it up, these recommendations seek to improve the overall effectiveness of business incubators in Pakistan and contribute to the growth and success of startups in the country.

6.1. Theoretical Implications

This research adds insights to the existing body of knowledge on entrepreneurship with a focus on the experiences of entrepreneurs who have been part of incubation programs in emerging economies such as Pakistan. It fills a gap in our understanding by exploring the challenges and opportunities that incubated entrepreneurs face throughout their incubation journey enriching our comprehension of the incubation process and its limitations and providing guidance on how it can be enhanced. By studying the experiences of entrepreneurs who have successfully completed an incubation program,

this study offers perspectives on what happens after incubation, including the hurdles related to scaling up, accessing funding and sustaining growth. Knowledge about the factors that influence business success can be invaluable for policymakers, incubators and entrepreneurs themselves when designing policies and programs that better cater to their needs.

Exploring the incubation process allows for an understanding of how selection criteria is determined and what kind of training and mentoring is provided to incubated entrepreneurs, as well as the networking opportunities available to them. This understanding can drive improvements in the effectiveness of incubation processes, in fostering development within a country.

6.2. Practical Implications

The research findings are valuable for entrepreneurs in Pakistan who're part of incubation programs. These findings provide strategies to overcome the challenges of entrepreneurship and make the most of the opportunities that incubation programs offer. They also serve as a resource for policymakers, incubators and other stakeholders helping them better support entrepreneurs after they graduate from the incubation programs. This support can be achieved by creating initiatives that focus on providing access to financing, mentoring and networking opportunities for graduated entrepreneurs.

The study offers recommendations to policymakers and incubators in Pakistan to improve the incubation process and enhance the support provided to entrepreneurs. By incorporating these recommendations into policy and program design, incubation programs can ensure that they deliver the support for success of the entrepreneurial journey of the Incubates. Moreover this research encourages exploring new approaches to entrepreneurship in Pakistan by learning from the experiences of graduated entrepreneurs and aligning with their needs and aspirations.

Furthermore this research promotes collaboration among stakeholders involved in entrepreneurship in Pakistan that can include policymakers, incubators, investors and entrepreneurs. The study aims to shed light on the obstacles and potential advantages to foster a comprehensive understanding of the incubation process while also encourages stakeholders to collaborate in order to tackle the challenges encountered by entrepreneurs who have completed their incubation journey.

7. Limitations and Future Research

While this study has provided insights, it's important to acknowledge its limitations. Firstly the study only focused only in one geographical location, which may restrict the generalizability of how applicable the findings are to other emerging economies or countries. Secondly relying on self-reported data from incubated entrepreneurs introduces the possibility of bias or misreporting. Moreover the study solely concentrated on the experiences of incubated entrepreneurs and didn't explore the perspectives of stakeholders. This indicates a need for research that incorporates their viewpoints to gain a comprehensive understanding of the incubation process and its impact on entrepreneurship in Pakistan. Lastly the study didn't delve into the experiences of incubated entrepreneurs who didn't complete the program, which could provide insights into challenges faced by entrepreneurs in Pakistan during incubation.

Future research can build upon these findings by addressing these limitations and exploring avenues for investigation. For example conducting comparative studies across regions in Pakistan or other emerging economies would help understand unique challenges and opportunities encountered by incubated entrepreneurs more effectively. Additionally future studies could employ a mix of both qualitative and quantitative methodologies to gather data from different angles and reduce potential biases, in self-reported information.

Finally examining the experiences of entrepreneurs who didn't graduate from the incubation program can provide insights, into the reasons behind attrition and the difficulties faced by these entrepreneurs. Such investigations can offer an understanding of the incubation process and contribute to the development of effective policies and programs that support entrepreneurial growth in emerging economies.

Ethical Considerations

This study adheres to AJSSs guidelines as outlined in their Guide for Authors and Ethical Statement. The research ensured that all participants provided voluntary consent before their involvement and all procedures strictly followed established standards.

Declaration of Interest

The authors confirm that they have no interests or personal affiliations that could be perceived as exerting undue influence, on the reported research.

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9. References

- Abdulsalam, M. A., Abdullah, H. R., & Yusuf, R. O. (2021). "Business Incubation Centers and the Growth of SMEs: A Review". *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 73.
- Audretsch, D. B., & Belitski, M. (2017). "Entrepreneurial ecosystems in cities: Establishing the framework conditions". *Journal of Business Venturing Insights*, 8, 86-89.
- Al-Mubarak, H. M., & Busler, M. (2013). "A framework for the development of business incubators for emerging markets". *Journal of Technology Management & Innovation*, 8(4), 55-64.
- Al-Mubarak, H. M., & Busler, M. (2014). "An analysis of success and failure factors for business incubators in developing countries". *International Journal of Entrepreneurship and Small Business*, 21(4), 448-463.
- Anderson, A. R., & Al-Mubarak, H. M. (2012). Examining the factors influencing incubator success in developing countries: the case of a Kuwait-based business incubator. *International Journal of Entrepreneurship and Small Business*, 15(1), 88-101.
- Bøllingtoft, A., Uhløi, J. P., & Madsen, H. (2020). Educating entrepreneurs: The role of business incubators in entrepreneurship education. *Industry and Higher Education*, 34(1), 34-43.

- Braun, V., & Clarke, V. (2019). Successful qualitative research: A practical guide for beginners. *Sage*.
- Chang, Y. C., Yang, H. E., & Lin, J. H. (2020). Exploring the antecedents and consequences of networking capability in start-up incubators. *Journal of Business Research*, 116, 209-221.
- Choto, T. (2015). Entrepreneurship as a tool for job creation in Zimbabwe. *African Journal of Economic and Management Studies*, 6(2), 218-229.
- Cordero, R., & Martínez-Romero, M. J. (2022). Incubating startups' sustainability: A multi-perspective approach. *Business Strategy and the Environment*, 31(1), 186-201.
- Entrepreneur's Small Business Encyclopedia. (2020). Business incubator. Retrieved from <https://www.entrepreneur.com/encyclopedia/business-incubator>
- Gao, Y., & Yang, S. (2021). Entrepreneurship, social inclusion, and poverty alleviation: A review and research agenda. *Frontiers of Business Research in China*, 15(1), 1-24.
- Huang, C. (2021). The impact of entrepreneurship on economic growth: An overview of recent empirical evidence. *Journal of Small Business Management*, 59(S1), 43-64.
- Hughes, M., Ireland, R., & Morgan, R. (2007). *Stimulating dynamic entrepreneurship: The role of business incubators in the UK*. London: NESTA.
- Jafari, M., & Eftekhari, A. (2021). Entrepreneurship, innovation, and economic growth: A systematic review of the evidence. *Journal of Innovation & Knowledge*, 6(2), 62-70.
- Jones, P., Daniele, R., & Kim, Y. (2021). Entrepreneurship, job creation and the social economy in the UK. *Local Economy*, 36(2), 179-194.
- Kausar, A., & Sherazi, H. (2017). Simultaneous determination of economic growth, human capital investment, and institutions in Pakistan: Econometric evidence. *Academic Journal of Social Sciences*, 1(2), 2017.
- Khan, A. G., Gao, S. S., & Khan, S. U. (2022). Business incubation services and the growth of new ventures: the mediating role of entrepreneurial competencies. *Journal of Business Research*, 143, 497-506.
- Lee, S. M., & Osteryoung, J. S. (2019). The role of incubators in the entrepreneurial process. *Journal of Small Business Management*, 57(1), 19-40.
- Lesáková, P. (2012). Business Incubators as an Environment of Innovative Business. *Procedia-Social and Behavioral Sciences*, 58, 1258-1267.
- Lose, T., & Tengeh, R. K. (2015). Challenges facing SMEs in accessing finance in Ghana. *Research Journal of Finance and Accounting*, 6(20), 50-56.
- Martin, B. C., McNally, J. J., & Kay, M. J. (2021). Startup accelerators/incubators: An integrative framework and research agenda. *Journal of Business Venturing*, 36(1), 109-126.
- Masutha, T., & Rogerson, C. M. (2014). The impact of business incubators on new ventures in South Africa. *Journal of Small Business and Entrepreneurship Development*, 2(1), 49-64.
- Milne, D., Dang, H., & Ng, L. (2021). Determinants of startup incubator performance in the United Arab Emirates. *Journal of Business Research*, 122, 312-325.
- Niammuad, T., Mapompech, T., & Suwanmaneepong, S. (2014). Business incubation services and firm performance of SMEs in Thailand. *Journal of Small Business Management*, 52(3), 455-471.

- Niu, X., Lin, X., & Zhou, W. (2021). Business incubation and new venture performance: the role of entrepreneurial orientation and market knowledge. *Journal of Business Research*, 130, 670-678.
- Osagie, R. N., Adewoye, O. J., & Osagie, O. E. (2021). Examining the role of business incubators in sustainable entrepreneurship development. *International Journal of Entrepreneurial Behavior & Research*, 27(1), 160-178.
- Qureshi, S., Mustafa, A., Talha, M., Ahmed, A., & Amin, M. (2021). Investigation of the key success factors of ventures incubated at IBA CED incubation center: An empirical study. *Academic Journal of Social Sciences*, 4(4), 889-905.
- Ratinho, T., Harms, R., & Walsh, S. (2020). Business incubation research: A review and future directions. *International Journal of Management Reviews*, 22(2), 267-290.
- Sahut, J. M., Peris-Ortiz, M., & Ortiz-Miranda, D. (2011). The incubator framework: design of a model to promote incubation. *International Entrepreneurship and Management Journal*, 7(4), 507-521.
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Harvard University Press.
- Sherman, H. D. (1999). Business incubators: a viable business alternative? *Journal of Business Venturing*, 14(2), 93-106.
- Soetanto, D. P., Arreola-Risa, A., & Priyono, D. (2021). The effectiveness of business incubators in promoting sustainable entrepreneurship: A study in Indonesia. *Sustainability*, 13(6), 1-17.
- Sousa, M. J., Santos, J. F., & Falcão, P. (2021). The entrepreneurial experience in business incubation: A systematic review of the literature. *Journal of Business Research*, 130, 27-40.
- Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship Theory and Practice*, 41(1), 49-72.
- Stern, S. (2014). The Role of Innovation in Entrepreneurship: Building Communities, Networks, and Markets. *Journal of Technology Transfer*, 39(3), 433-438
- Sun, W., Wang, Y., Liu, H., & Zhu, Y. (2021). Entrepreneurship, competition and economic growth: evidence from Chinese cities. *Applied Economics*, 53(16), 1901-1915.
- Zainuddin, Z., Md Dahlan, N. H., & Kasim, N. A. (2020). Impact of business incubator on the performance of technology-based start-ups in Malaysia. *Journal of Global Entrepreneurship Research*, 10(1), 1-14.