

Empowering Start-Ups : The Impact of Business Incubation Centers in Delhi-NCR

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Abstract

Purpose : This study aimed to assess the involvement of Business Incubation Centers in encouraging the growth and development of startups within the Delhi-NCR region. Furthermore, it also discussed the comprehensive support and resources provided by these incubators to emerging entrepreneurs, including mentoring, infrastructure, financial guidance, technical know-how, legal services, and networking opportunities.

Methodology : Using statistical methods like frequency analysis, *t*-test, and analysis of variance (ANOVA), it gathered primary data from a sample of 100 respondents from 9 business incubation facilities in Delhi, Gurugram, and Noida.

Findings : According to the research, respondents usually think that there is a greater chance of survival and growth for startups who enroll in incubation programs. The respondents identified the centers' infrastructure, resources, and co-working space as being beneficial in lowering start-up expenses. Many of the participants also recognized the support incubators offer to start-up entrepreneurs in the form of insightful mentoring and advice.

Practical Implications : In a nation like India, where unemployment is rising and the population is enormous, more business incubators ought to be supported. These business incubators fostered the development of startups and, consequently, the local entrepreneurial culture. Incubator operators, aspiring entrepreneurs, and government policymakers interested in starting up would find this study useful.

Originality : This research primarily focused on the impact of business incubators in a specific region that has not been explored yet and discussed the role these centers play in empowering the young start-ups in a region.

Keywords : business incubation, start-ups, entrepreneurial, growth

JEL Classification Codes : I230, I280, O330

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The study titled "Empowering Start-ups: Evaluating the Impact of Business Incubation Centers in Delhi-NCR (National Capital Region)" examines the role that incubation centers play in empowering start-ups and gaining insight into how these centers affect their growth. In this study, the focus is given to building the understanding of business incubators. Furthermore, this study also shows what services are offered by these centers and their impact on new businesses. In hospitals, incubators are installed in the NICU for premature babies. In the same way that they work to provide an environment for the growth and development of premature babies, business incubators offer early-stage startups a place to work on their ideas, as well as support systems and co-working spaces. They also guide projects under the guidance of various experts, entrepreneurs, and trainers,

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increasing the likelihood of their survival, growth, and development. The goal of business incubators is to support startups at their seed or early stages. They offer assistance to new firms on how to launch and grow their operations.

Throughout this process, they will offer a range of resources, including financial support, networking opportunities, mentorship, research and computer labs, experimentation labs, libraries, co-working space that is rented at a discounted rate from the market, technical assistance, marketing expertise, a supportive environment for growth and expansion, a competitive platform where you can talk about obstacles and exchange experiences with other startups, and details about different sources that can assist with startup funding.

Some of the common services offered by business incubation centers are:

↳ **Providing Funds.** Business incubators assist firms in their early stages by offering advice on how to raise money from banks, angel investors, venture capitalists, financial institutions, and other sources. One of the biggest problems that companies encounter is getting finance. Incubation centers help to overcome this obstacle by partnering with banks, angel investors, and venture capitalists. Additionally, incubators assist in creating company ideas and presentations that appeal to investment sources.

↳ **Access to Infrastructure.** Businesses in their early stages can take advantage of free internet, computer labs, testing facilities, furniture, library, and co-working space at a modest cost. This will enable startups to focus on their business and lower their initial costs.

↳ **Networking Prospects.** Many aspiring business owners are enrolled in business incubation centers where they can compete and learn from one another. Professionals from many fields were also asked to provide mentorship and advice to startups so they could grow their networks and connect with possible suppliers, funding sources, and customers. This will assist them in developing more effective strategies for the growth of their startups.

↳ **Legal Services.** Business incubation centers also help in providing legal services such as information about rules and regulations to run a business, licensing, support in filling intellectual property rights, information related to lawyers, auditors, accountants, and so on.

↳ **Market Research and Market Strategy.** Incubation facilities for businesses also guide competitors, market trends, and industry-specific tactics that may help the business expand. In order to improve startups, they also link companies with alliances and strategic partners.

↳ **Inculcating Multiple Entrepreneurial Skills.** Business incubation centers facilitate the cultivation of various entrepreneurial abilities by means of workshops, expert lectures, and mentor-mentee interactions aimed at ongoing evaluation and supervision. They also offer you advice on the fundamentals of business as well as the steps, procedures, and documentation needed to launch your enterprise.

The research into the impact of Business Incubation Centers in Delhi-NCR holds substantial importance for different stakeholders, as this region has seen an increase in several incubation centers. The government is also emphasizing startup policies and culture in these areas.

This research will be helpful to the following stakeholders:

↳ **Entrepreneurs.** As the business ecosystem in Delhi-NCR grows, so does the significance of incubation facilities. There is an increase in the number of early-stage entrepreneurs seeking assistance from reputable incubation centers with their innovative concepts. These centers offer a range of support services to help startups along the path of entrepreneurship. Beginning a business always carries some risk, but these centers reduce that risk by providing as much knowledge as possible on markets, trends, and industry-specific mentorship. In a highly

competitive corporate environment, having this information can greatly increase their chances of success. Entrepreneurs might be encouraged to join reputable incubation centers for speedier growth by researching them.

↳ **Government.** Incubation centers act as a catalyst to enhance the entrepreneurial ecosystem. These centers help in innovation and growth of startups which in turn help in creating jobs in the Delhi-NCR region. In addition to raising tax revenues for the government, corporate expansion raises a state's general level of living. In order to motivate policymakers to create these centers, invest in incubators, and successfully execute these centers, this research will highlight the numerous advantages and significance of these centers from their perspective.

↳ **Investors.** Banks, venture capitalists, angel investors, and financial institutions are the investors for startups. Incubation centers have tie-ups or collaborations with these funding agencies to finance early-stage startups. This research will be valuable for investors who are seeking companies to allocate resources effectively.

↳ **Incubation Center Operators.** This research is also beneficial to incubator operators, as it helps them to understand better how their programs affect startups. They can now customize their offers to meet the requirements of the enterprises that are being incubated. Research from incubator centers will help them improve what they have to offer. By improving what they offer, incubators might potentially generate more income.

↳ **Research Communities.** Scholars and researchers gain a deeper understanding of the incubation system. Through such work, research communities interested in incubation centers can find out gaps and get directions for further work.

↳ **Contribution Toward Economic Growth.** Overall, the data indicate that research is a key driver of economic expansion. A region's economic well-being will be enhanced by innovative ideas and jobs produced by successful businesses. The establishment of additional incubation centers will contribute to the economy's overall growth and development.

In summary, the research into the impact of Business Incubation Centers in Delhi-NCR catalyzes informed decision-making, innovation, and economic growth. It aligns the interests of entrepreneurs, investors, policymakers, incubator operators, academics, and the larger community, collectively driving the development of a thriving entrepreneurial ecosystem in the region.

Review of Literature

Aernoudt (2004), in his conceptual research based in the USA and Europe, found that barriers to the growth of incubators are a lack of entrepreneurial orientation in the country and funding at the initial stages for firms. He provided a thorough explanation of the several kinds of incubators and addressed how to close the entrepreneurial gap by fostering the expansion of incubators and business angel networks. Al-Mubarak and Schröl (2011) examined the performance of ten incubators located throughout Europe based on four performance metrics to determine the incubator's worth after a year of operation. They concluded that variations in size, sponsorship, service focus, and service kinds account for some incubators' superior performance compared to others.

Bala Subrahmanya (2017) investigated the various functions that Bangalore's technology-based incubators perform in the growth of the city's tech start-ups. The paper looks at Bangalore's startup scene and the factors that helped the city become known as one of India's IT centers. To conclude the study, 50 subject matter experts will be interviewed and discussed. Kiran and Bose (2020) investigated the role of networking, academic connections, facility use, and stimulating business incubation performance. A total of 60 managers of technology business incubators (TBI) in India provided the data. The results supported the importance of networking and indicated that it had a good and significant impact on TBI managers' ability to service their clients.

In their investigation of 59 start-ups housed in a university incubator, Blank (2021) discovered that founders of start-up teams with greater managerial experience have a higher chance of their businesses surviving over time than those with less experience. Thus, experienced founders can leverage more from mentoring programs and other support given by the university incubators. The study also emphasized having more incubators in universities as they are having a positive impact on the growth of the overall economy. Ssekiziyivu and Banyenzaki (2021) investigated the association between incubation methods and the sustainability of startup companies that are incubated in Uganda using a quantitative technique. Data were gathered from 110 startups that are incubated in Uganda across eight incubators. According to the report, incubator procedures benefit the startup companies that get them.

Liow and Wong (2021) examined the value-add of incubation activities by focusing on real alternatives in an effort to understand better how university-based incubators support the entrepreneurial process of various incubatees.-driven theory and perspective theory based on resources. Interviews with incubator managers and workers over six months were conducted for this study in five Malaysian institutions. The study also shows that by serving as a fulcrum between the organization and the external world, these incubators support the incubators' entrepreneurial path. It gives further information about current incubation practice trends and how they help entrepreneurs succeed.

Objective of the Study

The following research objective was framed for this topic :

(1) To assess the involvement of Business Incubation Centers in improving the growth of start-ups.

Research Methodology

The research methodology for this study involves collecting primary data from a sample of 100 respondents from nine business incubation centers located in Delhi, Gurugram, and Noida and employing statistical techniques such as analysis of variance (ANOVA), *t*-test, and frequency analysis. The research is descriptive. The respondents were the young start-ups who were getting trained in business incubators. Due to their abundance of business incubators and status as startup hotspots, Delhi, Gurugram, and Noida were selected through stratified sampling for their private incubators. Only 100 incubators could be used due to time and financial restrictions. The primary objective of this research is to assess the active role played by Business Incubation Centers in improving and promoting the growth of startups. A 5-point Likert scale was used for measuring the responses, and the reliability value of the scale was 0.842. Data for this study were gathered between September 2023 and November 2023. ANOVA will be employed to examine differences in respondents' perceptions and experiences across backgrounds and frequency analysis will be used to find recurring themes and patterns in the dataset. The objective of this approach is to enhance comprehension of the influence and efficacy of incubation centers in enabling entrepreneurs in the Delhi-NCR area.

Research Gap

In India, the idea of an incubation center is changing, and there are more incubation centers in universities. In order to promote an entrepreneurial culture, several state governments are working to develop incubators. In particular, the number of startups and incubators in the Delhi-NCR region is growing quickly. Numerous studies on business incubator facilities, their significance in promoting start-ups, and the effects of incubation on new venture enterprises have been conducted in numerous nations, including the USA and China. Nevertheless, the researcher chose this subject for study because there weren't many studies on it in India.

Data Analysis and Results

Table 1 displays demographic characteristics gathered from 100 incubators spread over 9 incubation facilities in the Delhi-NCR.

The demographic profile of the sample polled is presented in Table 1, which indicates the gender distribution of the 100 respondents, with 64% of them being male and 36% female. In terms of age categories, the bulk of the sample of 100 participants are between the ages of 18 and 25 (36%), followed by those between the ages of 25 and 30 (26%), 30 and 35 (22%), and those over the age of 35 (16%). In terms of educational qualifications, the data demonstrate that 24% possess a 12th-grade education, 34% are graduates, 24% hold postgraduate degrees, and 18% fall under the category of "Others." There are 100 participants in each group for the research. As a result, Table 1 presents a varied sample set for analysis and interpretation in relevant research or decision-making processes. The figures in Table 1 illustrate a diverse distribution across gender, age, and educational qualifications among the surveyed population.

Table 2 provides statements that capture the perceptions of respondents regarding the role and impact of Business Incubation Centers on start-up companies. A notable finding is that a majority of respondents express strong agreement (SA) with the idea that these incubation centers play a crucial role in nurturing and supporting start-ups.

Table 1. Demographic Statistics

Demographic Statistics		Frequency
Gender	Male	64
	Female	36
	Total	100
Age	18–25	36
	25–30	26
	30–35	22
	Above 35	16
	Total	100
Educational Qualification	12th passed	24
	Graduates	34
	Postgraduates	24
	Others	18
	Total	100

Table 2. Frequency Analysis of the Involvement of Business Incubation Centers in Fostering the Growth of Start-ups

Statements	SD	D	N	A	SA
Business Incubation Centers play a crucial role in nurturing and supporting start-up companies.	5	2	3	18	72
Incubators help start-ups access funding and investment opportunities.	22	58	8	6	4
Incubators provide valuable mentorship and guidance to start-up founders, contributing to their success.	2	2	6	31	59
Start-ups that join incubation programs have a higher likelihood of survival and growth.	1	2	7	36	54
Business Incubation Centers provide valuable resources and support for start-up companies.	6	5	9	35	45
Incubators provide access to co-working spaces and essential infrastructure, reducing start-up costs.	11	4	5	33	47

Start-ups in incubation programs benefit significantly from networking opportunities with other entrepreneurs.	3	3	4	34	56
Incubation centers offer tailored business development programs that cater to the unique needs of start-ups.	2	2	6	29	61
Business Incubation Centers assist start-ups in navigating regulatory and legal challenges effectively.	1	1	8	28	62
Incubators promote synergistic growth by facilitating collaboration between newly founded enterprises and established ones.	1	7	2	27	63

Table 3. T-test Impact of Involvement of Business Incubation Centers in Fostering the Growth of Startups with Gender

Levene's Test for Equality of Variances	t-test for Equality of Means						
	<i>F</i>	<i>Sig.</i>	<i>T</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	Mean Difference	Std. Error Difference
Equal variances assumed	7.925	.000	-1.384	98	0.169	-.397	0.286
Equal variances not assumed			-1.629	57.000	0.109	-.397	0.243

The majority of incubators disagree and express discontent with the lack of financial opportunities they receive for their ventures through incubation centers when asked about access to capital and investment alternatives. Furthermore, a noteworthy proportion of respondents also recognize the support incubators offer to startup founders in the form of insightful mentoring and advice. Additionally, the research indicates that most respondents think that startups that enroll in incubation programs have a better chance of surviving and expanding. According to the respondents, these centers effectively lower start-up expenses by providing useful infrastructure, tools, and co-working space.

Furthermore, incubation programs are perceived as beneficial for networking opportunities, assistance in legal services, filling patent applications, and tailored business development programs. The overall responses in Table 2 emphasize the positive impact of Business Incubation Centers on startups, underscoring their vital role in providing support, resources, and opportunities for growth and success in the entrepreneurial ecosystem.

🔗 **H01** : There is no significant impact of gender on the involvement of Business Incubation Centers in fostering the growth of startups.

Table 3 shows the analysis that evaluated the influence of gender on the engagement of Business Incubation Centers in fostering startup growth. Levene's test revealed unequal variances, implying data variability. The *t*-test, assuming equal variances, resulted in a non-significant difference ($p = 0.169$). When not assuming equal variances, the difference remained non-significant ($p = 0.109$). Because of these results, the null hypothesis (H01) that there is no significant effect of gender on the involvement of business incubator centers in promoting the growth of startups was accepted. This means that the gender factor does not significantly affect the involvement of business incubator centers in promoting the growth of startups, as demonstrated by the results of both tests that show there are no significant gender-related differences.

🔗 **H02** : There is no significant impact of educational qualification on the involvement of Business Incubation Centers in fostering the growth of startups.

Table 4 shows the analysis of the impact of educational qualification on the involvement of Business Incubation Centers in fostering the growth of startups yielded a statistically significant result. The ANOVA test revealed a significant *F*-statistic of 30.195 with a *p*-value of .000, which is less than the conventional significance level of

Table 4. Impact of Educational Qualification on the Involvement of Business Incubation Centers in Fostering the Growth of Start-ups

ANOVA					
Educational Qualification	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	183.977	11	9.683	30.195	0.000
Within Groups	185.996	89	0.321		
Total	369.973	100			

Table 5. Impact of Age on the Involvement of Business Incubation Centers in Fostering the Growth of Start-ups

ANOVA					
Age	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	90.712	7	4.774	13.614	0.000
Within Groups	203.406	93	0.351		
Total	294.118	100			

0.05. This indicates a significant difference among the various educational qualification groups concerning their involvement with Business Incubation Centers. Consequently, we reject the null hypothesis (H02) that there is no significant impact of educational qualification on the involvement of Business Incubation Centers in fostering the growth of startups. The data suggests that educational qualification does play a significant role in this context.

🔗 **H03** : There is no significant impact of age on the involvement of Business Incubation Centers in fostering the growth of startups.

Table 5 shows the analysis conducted using ANOVA reveals a significant impact of age on the involvement of Business Incubation Centers in fostering the growth of startups. The *F*-statistic of 13.614 is coupled with a *p*-value of 0.000, which falls below the standard alpha level of 0.05, signifying statistical significance. Therefore, based on the results, we must reject the null hypothesis (H03) that there is no significant impact of age on the involvement of Business Incubation Centers in promoting startup growth. The findings suggest that age does play a substantial role in influencing the level of engagement and support that startups receive from incubation centers, implying that age-related factors should be considered in understanding their involvement.

Managerial Implications

Study on Business Incubation centers is important for managers and policymakers as these centers are effective in empowering startups. They will give environment and many support services to start-ups, which in turn boost the entrepreneurial culture in the region. Business Incubation Center aims to nurture start-ups at an early stage or seed stage. They support new firms by offering advice on how to launch and grow their operations. As a result, they support efficient resource management for startups. More business incubators should be supported in a country like India, where unemployment is on the rise and population density is high. Hence, government decision-makers ought to recognize the value of incubation centers and allocate additional funds to build more of these facilities at universities through joint ventures with the public and private sectors.

Conclusion

The study "Empowering Startups: Evaluating the Impact of Business Incubation Centers in Delhi-NCR" sheds light on the pivotal role played by Business Incubation Centers within the dynamic entrepreneurial landscape of Delhi-NCR. Through a comprehensive analysis of primary data from 100 incubatees in 9 incubation centers, employing ANOVA and frequency analysis, this research has provided valuable insights into the overall impact of incubators on startups. The results of this study highlight that business incubation centers are really helpful for budding entrepreneurs as they provide an environment to learn more about businesses with experts, reducing their infrastructure cost by sharing working space and various other services and thereby enhancing the chances of survival of startups.

The findings highlight that Business Incubation Centers in Delhi-NCR significantly contribute to the growth and success of startups. Moreover, the study's outcomes underscore the importance of these incubators for startups but also for investors, policymakers, and the broader economy. The symbiotic relationship between incubators and startups fosters innovation, generates employment, and fuels economic development. In essence, this research reinforces the vital contribution of Business Incubation Centers in empowering startups, promoting economic growth, and shaping the entrepreneurial landscape of Delhi-NCR.

Limitations of the Study and Scope for Further Research

Due to time and financial constraints, this study is restricted to business incubators in Delhi, Gurugram, and Noida. Additionally, the sample size is limited to 100 incubates. Larger samples from more places in future studies might yield more useful findings. There is a great deal of potential for further research on this subject because business incubators are becoming popular in India. The government is working hard to promote entrepreneurial culture by creating initiatives like start-up India, and Atal incubation centers around the country.

Authors' Contribution

Nisha Chahal worked on the concept, identified the research gap, and gathered additional data relevant to the chosen research topic. Dr. Abhishek assisted in the application of statistical techniques, reviewed the entire manuscript, and made recommendations based on his research experience.

Conflict of Interest

The authors confirm that they have no connections to, or engagement with, any institution or group that has a financial or non-financial interest in the topics covered in this work or the resources it contains.

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