Research Paper

Incubating Success - Examining the Impact of Institutional Incubators on HEI Student's Entrepreneurial Intention

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Abstract

Entrepreneurship is an art of identifying opportunities, acquiring resources, and effectively planning and executing ventures. Incubators serve as crucial tools for fostering entrepreneurship and developing more entrepreneurs. Entrepreneurial training aids students in recognizing opportunities, developing businesses, creating ventures, and achieving successful career growth, ultimately leading to the creation of direct and indirect jobs. This paper aims to examine the entrepreneurial intentions of students and the impact of incubation activities on these intentions. The study used a purposive sampling method. The sample size of the study is 258 students. The analysis results indicate that institutional incubation activities have a significant impact on students' entrepreneurial intentions. The mean score analysis of entrepreneurial intention shows that students exhibit a high level of intention towards entrepreneurship. Furthermore, the relationship between incubation activities—such as entrepreneurship training, assistance with business plan design and idea generation, mentoring and guidance, networking with business and angel investors, seed funding, and institutional support resources—is positively correlated with students' entrepreneurial intentions. These activities motivate students to change their perceptions of entrepreneurship and enhance their knowledge in this field.

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1. INTRODUCTION

Student entrepreneurs have long been a cornerstone of the nation's start-up ecosystem. Many iconic founders and today's celebrated tech leaders launched their ventures during their student years. The educational domain proves to be an ideal environment for nurturing young entrepreneurs, as it allows institutions to enhance students' innovative ideas through simple principles and techniques embedded in basic education. Educational institutions play a crucial role in shaping the entrepreneurial career paths of students, thereby contributing significantly to entrepreneurship development. However, enhancing student entrepreneurial skills remains a challenging task for these institutions, as there are no proven methodologies to reliably develop students' intention or willingness towards entrepreneurship. Business incubators have emerged as vital in fostering start-ups and nurturing budding entrepreneurs.

The rise of institutional incubators worldwide attests to their effectiveness in promoting entrepreneurship. Key elements of entrepreneurship include creativity, business ideas, business planning, innovation, ambition, entrepreneurial knowledge, motivation, leadership, self-efficacy, and risk-taking abilities. Through entrepreneurship education and the strategic use of

business incubators, institutions are mastering these essential elements, thereby fostering students' entrepreneurial intentions and innovation skills.

Institutional incubators in India have become a vital part of the country's burgeoning startup ecosystem, playing a critical role in nurturing entrepreneurial talent and fostering innovation. These incubators, often affiliated with prestigious universities, research institutions, and industry bodies, provide a comprehensive support system for early-stage start-ups. They offer essential resources such as mentorship from experienced industry professionals, access to state-of-the-art infrastructure, and opportunities for networking with potential investors and partners. Notable examples include the Indian Institute of Technology (IIT) incubators and the National Science and Technology Entrepreneurship Development Board (NSTEDB) supported incubators. These platforms not only facilitate access to funding and market insights but also offer educational programs that cover various aspects of business development. By creating an environment that encourages experimentation and collaboration, institutional incubators in India are instrumental in transforming innovative ideas into scalable enterprises, thus significantly contributing to the country's economic growth and positioning it as a global start-up hub.

2. THEORETICAL BACKGROUND OF THE STUDY

The background of the study based on relevant studies/ research articles/ surveys are presented below:

Robert D. *et al.*, (2002) [12] "Entrepreneurship is the process of creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risks and receiving the resulting rewards of monetary and personal satisfaction and independence."

Ajzen's (1991) [2] Theory of Planned Behavior (TPB) is a foundational framework used to understand entrepreneurial intention. TPB posits that intention is influenced by attitudes toward the behavior, subjective norms, and perceived behavioral control. This model has been extensively applied to entrepreneurial contexts, providing a robust theoretical basis for predicting entrepreneurial intentions.

Shapero and Sokol (1982) [19] introduced the Entrepreneurial Event Model, which highlights the role of social and cultural factors in shaping entrepreneurial intentions. Their model suggests that perceived desirability and feasibility of entrepreneurship, influenced by cultural norms and social support, are critical determinants of entrepreneurial intention.

Entrepreneurial education and training programs have been shown to significantly impact students' entrepreneurial intentions. Fayolle and Gailly (2015) [9] conducted a meta-analysis indicating that such programs positively influence attitudes toward entrepreneurship, perceived behavioral control, and subsequently, entrepreneurial intention. They emphasize the importance of experiential learning and practical engagement in fostering entrepreneurial mindsets.

Hackett and Dilts (2004) [11] describe business incubators as shared office-space facilities that offer strategic, value-adding interventions, such as business monitoring and assistance, to incubatees (clients contracted with incubators). These interventions aim to facilitate successful new venture development while minimizing potential failure costs. This model creates an ecosystem where resources are efficiently managed and linked to support budding entrepreneurs.

Aernoudt (2004) [1] emphasizes that incubators and the incubation process are among the most recommended tools for promoting entrepreneurship and startups. His research illustrates how incubation bridges the entrepreneurial gap and promotes a virtuous cycle of economic development in regions where they operate. By providing essential support and resources, incubators help transform innovative ideas into viable businesses, thereby stimulating regional economic growth.

Bezerra *et al.*, (2017) [8] explore the significant role universities play in fostering youth entrepreneurship. Their study reveals that universities bring together students and local partners to support student entrepreneurs, creating a conducive environment for entrepreneurial development. This partnership approach is shown to have a more profound impact on entrepreneurial outcomes compared to traditional methods, as it leverages the strengths of academic institutions and local business networks.

Ikebuaku *et al.*, (2018) [13] discuss the effectiveness of business incubation training over traditional entrepreneurship education. Their findings suggest that business incubation significantly enhances the real opportunities and capabilities of student entrepreneurs. The study highlights that practical, hands-on training provided by incubators, when combined with theoretical entrepreneurship education, leads to more effective entrepreneurial skill development and venture success.

Peters, Rice, and Sundararajan (2004) [16] discuss the strategic functions of institutional incubators, emphasizing their role in reducing the risk of failure for startups. They argue that incubators provide critical infrastructure, mentoring, and financial support that help foster entrepreneurial intentions by creating a conducive environment for business development.

Bergek and Norrman (2008) [7] provide a detailed analysis of different incubation practices and their effectiveness in enhancing entrepreneurial skills. Their study concludes that incubators not only provide physical resources but also facilitate access to knowledge, networks, and capital, which are essential for the development of entrepreneurial intentions and capabilities.

According to a study by Al-Mubaraki and Busler (2013) [3] institutional incubators significantly impact the entrepreneurial intentions of their clients. Their research demonstrates that incubators increase the likelihood of entrepreneurial action by providing support services that enhance the feasibility and desirability of starting a business.

Mian (1996) [15] examines the role of university-based incubators in fostering entrepreneurial intentions among students. His findings suggest that these incubators are particularly effective due to their integration with academic resources, research facilities, and industry partnerships, which collectively enhance students' entrepreneurial intentions.

The study by Bandura (1986) [5] on social cognitive theory provides insights into the mediating role of self-efficacy in

entrepreneurial intention. Incubators, through mentoring and skill development programs, boost individuals' confidence in their ability to successfully start and run a business, thereby increasing entrepreneurial intentions.

Ratinho, Harms, and Groen (2013) [17] analyse the long-term outcomes of incubation programs and their influence on entrepreneurial intentions. They found that sustained support from incubators leads to higher survival rates of startups and a greater likelihood of serial entrepreneurship, indicating a lasting impact on entrepreneurial intentions. In addition to providing physical space and resources, incubators offer a range of strategic interventions. These include mentoring, networking opportunities, access to funding, and business plan development. Such comprehensive support systems are crucial in helping nascent entrepreneurs navigate the challenges of starting and growing a business. According to Carayannis and Von Zedtwitz (2005), these structured support systems significantly increase the survival rates and success of new ventures.

3. OBJECTIVES

1. To analyse the level of Entrepreneurial Intention of the students from higher educational institutions.
2. To study the start-up development deeds by Incubators in Higher Educational Institutions.
3. To identify how the student's Entrepreneurial Intentions are influenced by Incubation Activities offered by educational institutions.

4. METHODOLOGY

Population

The geographical area of Coimbatore District is chosen for the study. The sampling population was Undergraduate and Post Graduate students in selected Higher Educational Institutions.

Sampling Procedure

There are 78 Arts and Science colleges in Coimbatore affiliated with Bharathiar University. Among them, 5 Arts and Science Colleges were selected by certain criteria like Innovation and Incubation Centre, Entrepreneurial Development Cell, popularity, student's strength, ranking and established year. Non-probability purposive sampling methods were used for selecting and inclusion in the sample due to their characteristics and experience related to entrepreneurship.

Sample Size

20% of the proportionate population selected from each selected arts and Science College. Hence the standard population size required for the known population is 175 or more measurements/surveys are needed to have a confidence level of 95% that the real value is within ±5% of the measured/surveyed value. The present study was conducted with a total number of 258 UG and PG students.

Tools used for Analysis

The statistical tools used are selected based on the suitability to examine the objectives of the research using the SPSS statistical package. The results are analysed based on the mean score, chi-square, Pearson's moment correlation and regression analysis for the present paper.

Data Collection Tool

Primary data was collected through a questionnaire and secondary data from published sources. The data were collected from a questionnaire-based survey in selected 5 colleges. The questionnaire consisted mainly of structured questions. Distributed the questionnaire to the students who were willing and had basic knowledge of entrepreneurship based on the suggestions of their immediate supervisor or their class professor. 300 questionnaires were distributed, of which 258 were fully completed.

Measures

Dependent variables: Entrepreneurial Intention

"Entrepreneurial Intentions Questionnaire" (EIQ), developed by Liñán and Chen in 2009 [14]. The EIQ is a self-report instrument designed to assess an individual's intention to start a new business or engage in entrepreneurial activities. It consists of several items or statements that respondents rate based on their agreement or disagreement.

5. RESULTS AND DISCUSSIONS

The Incubation activities of the institutions and Entrepreneurial Intention of the student variables are calculated using mean score value and Standard deviation and presented in table. The relationship among Incubation activities and entrepreneurial intention are analysed by Pearson's correlation methods using SPSS and presented below in table 3

Table 1: Assessment of Entrepreneurial Incubation Activities offered by Higher Education Institutions

Incubation activities by HEI's	Mean Score Value	Standard Deviation
Personalized guidance from experienced entrepreneurs and business professionals.	2.491	1.1780
Regular feedback sessions to help refine business ideas and strategies.	3.882	.7860
Workshops and seminars on how to write effective business plans.	2.667	1.0839
Assistance in developing and refining business models and strategies.	3.285	1.2066
Access to a network of alumni entrepreneurs and successful start-up founders.	2.667	1.0798
Events and meet-ups to connect with potential investors, industry experts, and fellow entrepreneurs.	2.829	1.0993

Seed funding or grants provided by the institution itself.	2.969	1.1161
Introduction to venture capitalists, angel investors, and other funding sources.	2.939	.9506
Opportunities to pitch business ideas at demo days and investor events.	3.092	.8732
Administrative support including accounting, payroll, and HR services.	2.553	1.0954
Guidance on legal issues such as company registration, intellectual property rights, and regulatory compliance.	2.548	1.2354
Provision of shared office space with essential infrastructure (e.g., internet, meeting rooms).	4.091	.7103
Access to laboratories, workshops, and specialized equipment.	2.811	.9820
Support in product development, including prototyping and testing.	2.912	.9850
Access to technical expertise and resources within the institution.	2.298	.9838
Regular training sessions on various aspects of entrepreneurship such as marketing, sales, and operations.	2.969	1.1161
Specialized workshops on emerging technologies and industry trends.	2.939	.9506
Facilitating internships with start-ups and established companies.	3.092	.8732
Encouraging collaboration on projects with faculty, researchers, and industry partners.	2.553	1.0954
Training in communication, leadership, and negotiation skills.	2.939	.9506
Workshops on time management, team building, and conflict resolution.	2.289	.9074

Table 1 presents the mean and standard deviation of the constructs of Incubation Activities of the students measured on 5-point Likert scale. Based on result the students felt that training and coaching for entrepreneurship, workshop regarding entrepreneurship and financial support for or seed funding are having highest impact than other entrepreneurial activities. Table 2 shows the various dimensions of entrepreneurial intention of the students it is based on Entrepreneurial Attitude, Perceived behaviour of the students. The result of the mean score analysis shows Opportunities, Resources and Support from family is dominating other intention constructs.

Table 2: Assessment of Entrepreneurial Intention among students in HEI's

Entrepreneurial Intention	**Mean**	**Standard Deviation**
Intention towards Entrepreneurship	3.112	1.0051
Attitude towards Entrepreneurship	4.125	.7659
Perceived Behavioral Control on Entrepreneurship	3.625	.9326
Subjective Norms	3.785	.9690

Relationship between Pre-Incubation Activities and Entrepreneurial Intention

Table 3 presents the mean, standard deviation and correlation of Incubation Activities and Entrepreneurial Intention of students. The correlation analysis resulted that Incubation activities of the Higher education institutions are significantly correlated with entrepreneurial intention with r =.817 and p<0.01, it implies the incubational activities positively influencing the entrepreneurial intention of the students.

Table 3: Assessment of Relationship between Incubation Activities of Higher Educational Institutions and Entrepreneurial Intention of students

Scale	**Mean**	**SD**	**Incubation Activities**	**Entrepreneurial Intention**
Incubation Activities	3.7519	.6822	1	
Entrepreneurial Intention	3.6867	.6720	.817**	1

**p<0.01, SD- Standard Deviation

Table 4: Rregression analysis examining the impact of incubation activities on various components influencing entrepreneurship

	Intention towards Entrepreneurship		**Attitude towards Entrepreneurship**		**Perceived Behavioural Control on Entrepreneurship**		**Subjective Norms**	
	β	**Sig**	**β**	**Sig**	**β**	**Sig**	**β**	**Sig**
Constant	-.156		.163		1.201		.065	
Incubation activities	.765**	.000	.791**	.000	.463**	.000	.862**	.000
R^2	.540		.647		.204		.732	
Adj R^2	.538		.632		.201		.728	
Significance *	.000		.000		.000		.000	

Table 4 presents the results of a regression analysis examining the impact of incubation activities on various components influencing entrepreneurship: intention towards entrepreneurship, attitude towards entrepreneurship, perceived behavioral control on entrepreneurship, and subjective norms. The table summarizes the standardized coefficients (β) and significance levels (Sig) for each model.

i) Intention towards Entrepreneurship

Constant: β = -0.156, Sig = not provided (indicates a non-significant constant term).
Incubation activities: β = 0.765, Sig = 0.000 (highly significant).
R^2 = 0.540: This indicates that 54% of the variance in entrepreneurial intention can be explained by incubation activities.
Adj R^2 = 0.538: Adjusted R^2 corrects for the number of predictors in the model, showing a slight decrease but still a strong explanatory power.
Significance level (Sig): 0.000, indicating that the model is statistically significant.

ii) Attitude towards Entrepreneurship

Constant: β = 0.163, Sig = not provided (indicates a non-significant constant term).
Incubation activities: β = 0.791, Sig = 0.000 (highly significant).
R^2 = 0.647: This suggests that 64.7% of the variance in attitude towards entrepreneurship is accounted for by incubation activities.
Adj R^2 = 0.632: Adjusted R^2 shows a slight reduction but still indicates a strong model fit.
Significance level (Sig): 0.000, indicating a statistically significant model.

iii) **Perceived Behavioral Control on Entrepreneurship**

Constant: β = 1.201, Sig = not provided (indicates a non-significant constant term).
Incubation activities: β = 0.463, Sig = 0.000 (highly significant).
R^2 = 0.204: This indicates that 20.4% of the variance in perceived behavioral control is explained by incubation activities.
Adj R^2 = 0.201: Adjusted R^2 remains close to R^2, indicating consistency in the explanatory power of the model.
Significance level (Sig): 0.000, indicating the model is statistically significant.

iv) Subjective Norms

Constant: β = 0.065, Sig = not provided (indicates a non-significant constant term).
Incubation activities: β = 0.862, Sig = 0.000 (highly significant).
R^2 = 0.732: This suggests that 73.2% of the variance in subjective norms can be explained by incubation activities.
Adj R^2 = 0.728: Adjusted R^2 is slightly lower but still indicates a very strong model fit.
Significance level (Sig): 0.000, indicating the model is statistically significant.

Incubation Activities: The high β values and significant p-values (Sig = 0.000) across all four models indicate that incubation activities are a strong and significant predictor of students' intention towards entrepreneurship, their attitude towards entrepreneurship, their perceived behavioral control, and subjective norms related to entrepreneurship.
R^2 and Adj R^2 Values: The R^2 and Adjusted R^2 values show that the models for intention towards entrepreneurship, attitude towards entrepreneurship, and subjective norms are particularly strong, explaining a substantial portion of the variance. Perceived behavioral control, while significant, has a lower R^2, indicating other factors may also play a significant role in this aspect.
These results underscore the importance of incubation activities in shaping various psychological and social factors that influence entrepreneurship among students.

6. CONCLUSION

The study conducted sheds light on the intricate relationship between incubation activities offered by educational institutions and students' entrepreneurial intentions. Through a comprehensive analysis, it becomes evident that these activities play a pivotal role in shaping the mindset and readiness of students towards entrepreneurship.
Firstly, the study confirms the significance of entrepreneurial intention among students, highlighting its crucial role in fostering a vibrant entrepreneurial ecosystem. With a high level of intention towards entrepreneurship observed among the student participants, it becomes evident that there exists a fertile ground for nurturing future entrepreneurs within educational institutions. Furthermore, the study underscores the transformative impact of incubation activities on students' entrepreneurial intentions. Through personalized guidance, workshops, networking opportunities, and access to resources, incubators create an environment conducive to entrepreneurial development. The results of the regression analysis reinforce the notion that these activities significantly influence various aspects of entrepreneurial intentions, including attitudes, perceived behavioral control, and subjective norms.
The findings also resonate with existing theoretical frameworks, such as Ajzen's Theory of Planned Behavior and the Entrepreneurial Event Model, which emphasize the importance of psychological and social factors in shaping entrepreneurial intentions. By providing a supportive ecosystem and addressing key elements of entrepreneurship, incubation activities contribute to the cultivation of an entrepreneurial mindset among students. Overall, this study underscores the pivotal role of educational institutions in fostering entrepreneurship through effective incubation activities. By understanding the impact of these activities on students' entrepreneurial intentions, institutions can tailor their support systems to better equip

students with the skills, knowledge, and mindset necessary for entrepreneurial success. As the entrepreneurial landscape continues to evolve, initiatives that promote entrepreneurship at the grassroots level will be instrumental in driving innovation, economic growth, and societal development.

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