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Role of Mentorship and Incubation Programmes in Startup Development

Binoy Balakrishnan [1] * , Prof. (Dr.) Subhodh Kumar Sinha [2]

1. Research Scholar, Department of Management, Capital University, Koderma, Jharkhand, India
binoybkn@gmail.com ,
2. Professor, Department of Management, Capital University, Koderma, Jharkhand, India

Abstract: Mentorship refers to a structured developmental relationship in which an experienced individual (the mentor) provides guidance, support, and knowledge to a less experienced individual (the mentee) to help them grow personally and professionally. Incubation centres in HEIs serve as structured environments where student-led startups can access essential resources such as office space, technological infrastructure, seed funding, legal support, business development services, and networking opportunities. These centres act as nurturing platforms that reduce the barriers of entry and risk for first-time entrepreneurs. Incubators must professionalize their offerings, ensure domain-specific mentorship, and facilitate connections with industry experts and investors. Mentorship should not be one-size-fits-all but tailored to startup stages—from ideation to scaling. Regular interactions and structured feedback loops can significantly enhance the effectiveness of mentoring. Incubation and mentorship programs are widely regarded as critical enablers for entrepreneurial development, particularly for first-time entrepreneurs such as students. In the context of this study, the effectiveness of these support mechanisms was assessed through multiple dimensions, including awareness, participation, perceived benefits, and outcome-based metrics.

Keywords: Mentorship, Incubation, Programmes, Startup, Development

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INTRODUCTION

Entrepreneurs

Entrepreneurs are individuals who identify, develop, and bring to life new business opportunities. They are often characterized by their innovative thinking, risk-taking ability, and drive to create solutions that address market needs. Entrepreneurs can operate in various industries, ranging from technology and healthcare to education and entertainment, and they play a vital role in economic growth and innovation.

An entrepreneur is an individual who identifies a business opportunity, mobilizes resources, takes calculated risks, and organizes and operates a business enterprise with the aim of generating profit and creating value (Schumpeter, 1934). Entrepreneurs play a central role in economic development by introducing innovations, driving competition, and creating jobs. They are often characterized by traits such as risk-taking, creativity, initiative, leadership, and resilience (Drucker, 1985).

In the context of student entrepreneurship, an entrepreneur is typically a student who leverages institutional support, academic knowledge, and incubation or mentorship facilities to launch a startup while continuing their studies.

Characteristics of an Entrepreneur

Entrepreneurs possess a unique combination of personal traits, behavioral tendencies, and cognitive

abilities that distinguish them from other economic actors. These characteristics not only enable them to recognize opportunities but also to mobilize resources, tolerate risks, and drive ventures toward innovation and success. Scholars like Schumpeter (1934), Drucker (1985), and more recently Kuratko (2016) have outlined several defining traits that are common among successful entrepreneurs.

Risk-Taking Ability: Entrepreneurs are willing to take calculated risks in uncertain environments. While they do not take reckless risks, they are comfortable stepping out of their comfort zones to pursue new opportunities (Kuratko, 2016).

Innovation and Creativity: Entrepreneurs are highly creative and capable of thinking outside the box. They innovate by introducing new products, services, processes, or business models that offer value to the market (Schumpeter, 1934).

Proactiveness: Entrepreneurs are forward-looking and take initiative. They actively seek out opportunities and act on them rather than waiting for conditions to be perfect (Lumpkin & Dess, 1996).

Visionary Thinking: Successful entrepreneurs have a clear vision for their venture. This vision guides their decision-making and inspires others—such as co-founders, employees, and investors—to support the business (Timmons & Spinelli, 2009).

Types of Entrepreneurs

Entrepreneurs can be classified into various categories based on their objectives, approach to risk, innovation, scale of operation, and social impact. Below are the most commonly recognized types:

1. Innovative Entrepreneur

These entrepreneurs introduce new ideas, technologies, products, or services to the market. Example: Elon Musk (Tesla, SpaceX); in the Indian context, students who develop AI-based or sustainable tech solutions. Common among student entrepreneurs engaged in tech startups or campus-based innovation challenges.

2. Imitative (Adaptive) Entrepreneur

Entrepreneurs who copy or adapt existing innovations and modify them for new markets or local needs. Example: Launching a regional version of a food delivery app already popular elsewhere. Frequently seen in student entrepreneurs replicating proven models in new geographies or communities.

3. Serial Entrepreneur

Individuals who continuously come up with new ideas and start multiple businesses over time. Example: Students or alumni who start one startup after another in different domains like edtech, fintech, etc.

4. Social Entrepreneur

Entrepreneurs who focus on solving social, cultural, or environmental issues through sustainable business models. Example: Startups addressing rural education, menstrual hygiene, or eco-friendly products. Often found in student-led initiatives under social innovation programs or hackathons.

Mentorship

Mentorship refers to a structured developmental relationship in which an experienced individual (the mentor) provides guidance, support, and knowledge to a less experienced individual (the mentee) to help them grow personally and professionally. In the context of student entrepreneurship, mentorship involves advising student founders on various aspects of startup development, such as ideation, market research, business planning, fundraising, networking, and leadership.

Mentorship serves as a critical non-financial resource that bridges the gap between academic knowledge and real-world entrepreneurial challenges. Effective mentorship enhances decision-making, reduces startup failure risk, and fosters the development of confidence and entrepreneurial mindset among students.

According to Crisp and Cruz (2009), mentorship is "a developmental partnership through which one person shares knowledge, skills, information, and perspective to foster the personal and professional growth of someone else." Within incubation programmes in higher education institutions, mentors often include faculty members, industry professionals, successful alumni, and investors who voluntarily or officially assist student entrepreneurs throughout their entrepreneurial journey.

Role of Mentorship in Startup Success

Mentorship is a critical factor in the success of startups, particularly for student and first-time entrepreneurs who lack experience. A strong mentor provides guidance, industry insights, and emotional support, significantly increasing the chances of a startup's survival and growth. Below are the key roles mentorship plays in startup success:

1. **Strategic Guidance & Business Model Refinement**
   - Helps entrepreneurs refine their business ideas and value proposition.
   - Assists in developing a viable business model and go-to-market strategy.
   - Provides feedback on product-market fit and scalability.
2. **Avoiding Common Pitfalls**
   - Mentors share lessons from their own failures, helping startups avoid costly mistakes.
   - Warns against poor financial decisions, legal issues, and operational inefficiencies.
   - Guides in risk assessment and crisis management.
3. **Access to Networks & Funding Opportunities**
   - Introduces founders to investors, venture capitalists, and angel networks.
   - Helps in pitch preparation and negotiation strategies for fundraising.
   - Facilitates partnerships with industry players, suppliers, and potential clients.
4. **Skill Development & Leadership Growth**

- Enhances entrepreneurial skills (sales, marketing, finance, operations).
- Improves decision-making, problem-solving, and leadership abilities.
- Encourages adaptability and resilience in a competitive market.

Role of Incubation and Mentorship in Higher Education Institutions

In the rapidly evolving entrepreneurial ecosystem, higher education institutions (HEIs) have emerged as critical enablers of startup development, particularly among student entrepreneurs. Incubation and mentorship programmes are among the most influential support mechanisms offered by universities and colleges to transform innovative student ideas into viable ventures.

Incubation centres in HEIs serve as structured environments where student-led startups can access essential resources such as office space, technological infrastructure, seed funding, legal support, business development services, and networking opportunities. These centres act as nurturing platforms that reduce the barriers of entry and risk for first-time entrepreneurs. According to the All India Survey on Higher Education (AISHE, 2021), over 400 higher education institutions in India have operational incubation centres, many of which are supported by government agencies like DST, MHRD, AICTE, and state startup missions.

Alongside incubation, mentorship is a key element that significantly influences the entrepreneurial journey. Mentors—often experienced entrepreneurs, faculty members, industry professionals, or alumni—provide personalized guidance on business strategy, fundraising, team-building, market validation, and scaling operations. As highlighted by Ghosh and Bhowmick (2019), structured mentorship has a direct correlation with improved startup survival rates and student confidence levels.

Globally, universities such as Stanford, MIT, and NUS have demonstrated how institutionalized incubation and mentorship systems lead to breakthrough innovations and global startups (Mian, Lamine & Fayolle, 2016). In India, institutions like IITs, IIMs, and NITs have set benchmarks through successful incubation initiatives that blend academic rigor with entrepreneurial experimentation.

Importance of Mentorship and Incubation Programmes in Startup Development

Mentorship and incubation programmes play a crucial role in nurturing startups, especially for student entrepreneurs who lack experience and resources. Below are the key reasons why these programmes are essential in startup development:

1. Guidance and Expert Advice

- Mentors provide industry insights, helping entrepreneurs avoid common pitfalls.
- Experienced professionals offer strategic advice on business models, market entry, and scaling.
- Helps in refining business ideas and validating market potential.

2. Skill Development and Capacity Building

- Incubation programmes offer training in essential entrepreneurial skills (marketing, finance, operations, etc.).
- Workshops and mentorship sessions enhance leadership, negotiation, and networking abilities.
- Students gain hands-on experience in running a business.

3. Access to Funding and Investor Networks

- Incubators often connect startups with angel investors, venture capitalists, and government grants.
- Mentors help in preparing pitch decks and financial projections to attract funding.
- Increases credibility, making it easier to secure investments.

OBJECTIVES OF THE STUDY

1. To study on Importance of Mentorship and Incubation Programmes in Startup Development
2. To study on Role of Mentorship in Startup Success

RESEARCH METHOD

The data collection procedure is defined in detail, the development of survey instrument, the analysis to be conducted and other aspects of research methodology. The current study is descriptive research as it intends to describe challenges face by students' entrepreneurs. The methodology for the study on challenges faced by student entrepreneurs is designed to ensure a comprehensive analysis of the issue through a mix of qualitative and quantitative approaches.

Research Design

The study follows a **Descriptive and Exploratory Research Design**. The **exploratory c**omponent helps understand emerging patterns, challenges, and support mechanisms in student entrepreneurship.The **descriptive** component provides a detailed analysis of factors such as gender, ecosystem support, mentorship, financial literacy, and policy awareness.The study employs a mixed-methods approach. Surveys and structured questionnaires will collect numerical data to analyze trends and the magnitude of challenges.

Population and Sample design

The target population includes students engaged in entrepreneurial activities across universities, colleges, and startup ecosystems. Geographically, the focus is on calicut university and Kannur university.

Sampling Method

A stratified random sampling technique ensures representation across various demographics such as gender, geographical location, and type of entrepreneurial ventures.

Sample Size

The Bill Godden formula allows you to calculate an ideal sample size given a desired level of precision, desired confidence level, and the estimated proportion of the attribute present in the population.

Taking statistical approach to calculate sample size (n) of the infinite population, the various quantitative measures to be considered are as follows:

a) Degree of variability of population characteristics or standard deviation (σ)

b) Level of confidence desired or Z value

c) Degree of precision desired in estimating population characteristics (D)

$$n = \sigma^2 Z^2 / D^2$$

Assuming relative homogeneity of population‖ Bill Godden Formula

σ = Approximate value of standard deviation of the sample is taken as 1.

Z = Standard normal variation or Z value is taken as 1.96 for 95% confidence level desired

D is taken as 0.1 to ensure high degree of precision.

$$e\ n=1^2(1.96)^2 / (0.1)^2$$

Sample size-384

Sampling Frame

Students from recognized Indian universities/colleges that is Calicut university, Kerala and Kannur University, Kerala engaged in startups, incubators, or entrepreneurship development programs.

Data Collection Methods

Primary Data:

The primary data collection for the study was done by quantitative approach. For quantitative analysis, tools used for the purpose of primary data collection were questionnaires for the survey of students. The advantage of using survey is to lay the foundation for generalizing the results.

Secondary Data:

· Review of policy documents, reports from Startup India, Atal Innovation Mission, and university incubator performance data.

Data Analysis

Quantitative Data Analysis

Descriptive statistics : Descriptive statistics was used to describe sample characteristics and to analyse

the data obtained through structured questionnaire from customers. Mean, standard deviation, cross tabulations were also used to present the results.

Cronbach's Alpha : Cronbach's alpha was employed in SPSS to assess the internal consistency of a questionnaire made up of likert scale and items.

ANNOVA and Regression: ANNOVA and regression were employed in SPSS to test the hypotheses.

RESULT AND DISCUSSION

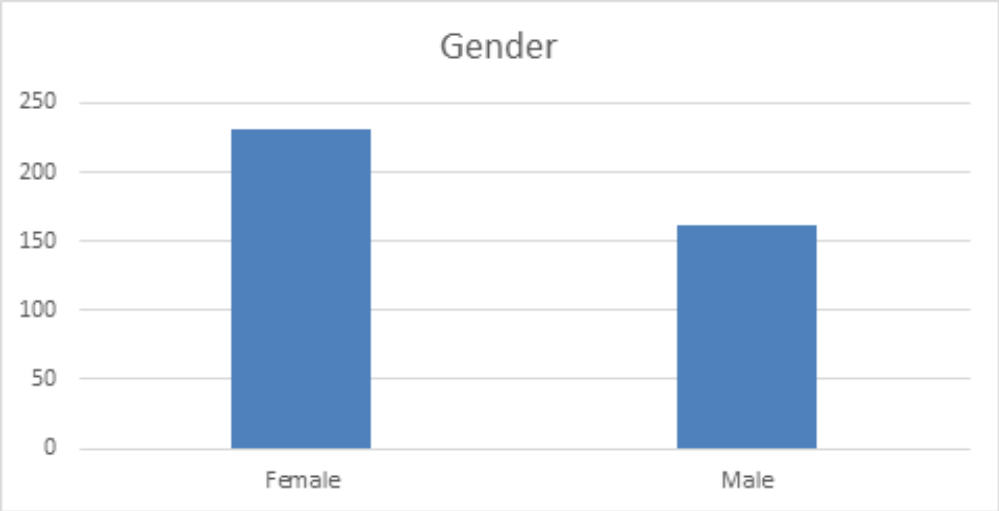
Demographic Profile of Respondents

Data was gathered from the students of universities in Kerala region who were involved in various startups. Respondents were asked to fill out demographic questions about their age, gender, education level, startup stages during data collection.

Table 1 Age of the respondents

Age	
15-25	290
25-35	102
Grand Total	**392**

A total of 392 respondents participated in the study. The majority (290 respondents or ~74%) fall in the 15–25 age group, indicating that most of the participants are likely college or early post-graduate students, which aligns with the target of student entrepreneurs. The 25–35 age group includes 102 respondents (~26%), suggesting a portion of participants are either postgraduate students, working professionals, or aspiring entrepreneurs who may have returned to academic incubation centres.



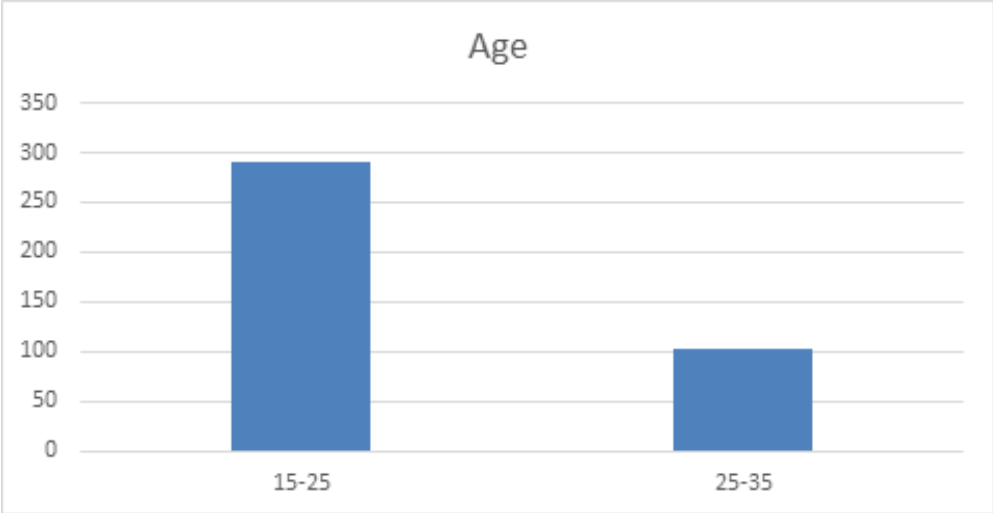
Graph 1 Age of the respondents

The bar graph visually shows a significant skew toward the 15–25 age group, with a taller bar compared to the 25–35 group. This distribution suggests that entrepreneurial initiatives and incubation participation are more prevalent among younger students, especially those in undergraduate or immediate post-college stages. It also implies that incubation and mentoring programmes in Kerala are reaching their primary target demographic effectively, but there may be scope to enhance support for older aspiring student entrepreneurs.

Table 2 Gender of the respondents

Gender	
Female	231
Male	161
Grand Total	**392**

The total sample size is 392 respondents. Out of these, 231 respondents are female, accounting for approximately 59% of the total. 161 respondents are male, making up the remaining 41%.



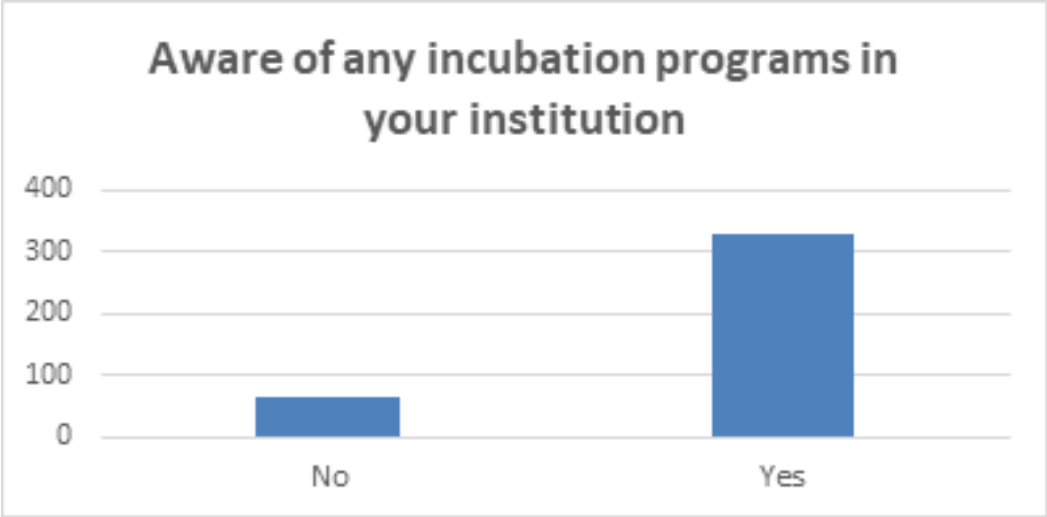
Graph 2 Gender of the respondents

The bar graph depicts a higher participation of female respondents in the study. This suggests active involvement of women in student entrepreneurship or incubation programmes in Kerala. It may also reflect the growing interest and inclusion of women in entrepreneurial ecosystems, which is a positive trend for gender equity in the startup space. The slight gender imbalance in favor of female respondents could indicate: Targeted efforts by institutions to empower women entrepreneurs. Better responsiveness or availability among female students for surveys on entrepreneurship.

Table 3 Aware of any incubation programs in your institution

	Aware of any incubation programs in your institution
No	64
Yes	328
Grand Total	**392**

A significant majority of respondents (328 out of 392, or ~84%) are aware of incubation programs in their institution. Only 64 respondents (~16%) reported that they are not aware of such programs.



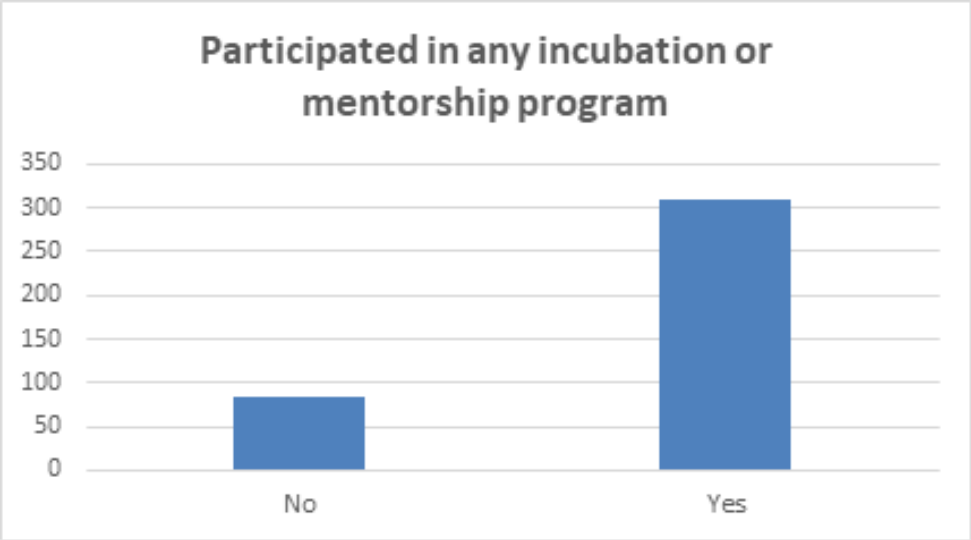
Graph 3 Aware of any incubation programs in your institution

The high awareness level (84%) suggests that most educational institutions in Kerala are either actively running incubation programs or communicating about them effectively to students. However, the 16% unaware is still notable — it indicates that a gap exists in outreach or communication within some institutions. These students might be in departments or colleges where such information isn't disseminated adequately. This disparity highlights a need for: Institution-wide sensitization and orientation programs, more inclusive communication strategies, and Cross-disciplinary exposure to incubation resources.

Table 4 Participated in any incubation or mentorship program

	Participated in any incubation or mentorship program
No	83
Yes	309
Grand Total	**392**

309 respondents, or approximately 79%, have participated in an incubation or mentorship program. 83 respondents, about 21%, have not participated in any such program.



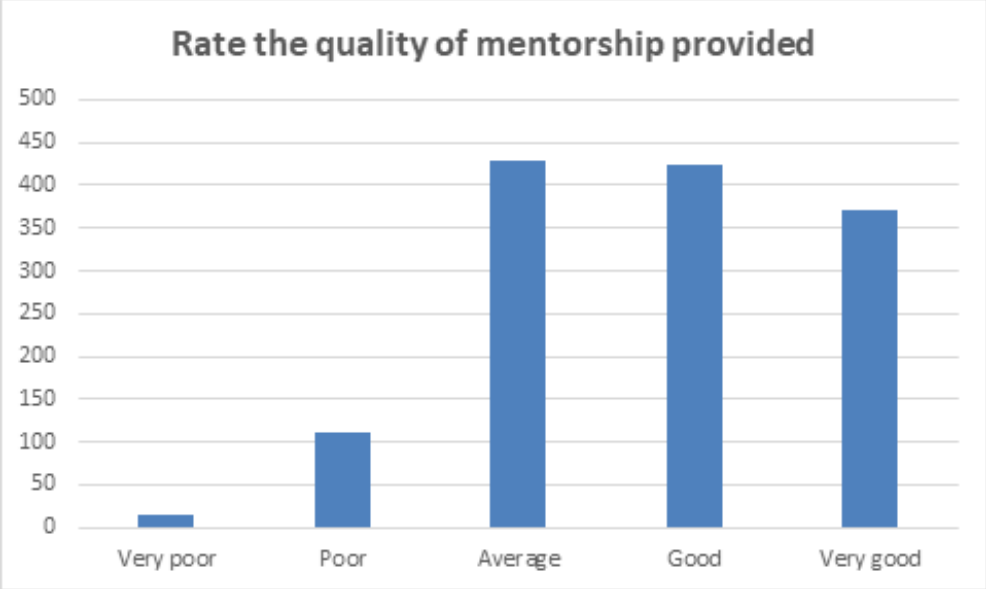
Graph 4 Participated in any incubation or mentorship program

The high level of participation indicates that a majority of student entrepreneurs in Kerala are utilizing institutional support systems, such as incubation and mentorship. This also validates that incubation and mentorship opportunities are both available and accessed by students across educational institutions. The 21% who haven't participated may reflect: Limited availability in certain institutions, Lack of awareness despite general program presence (linking with Table 9), Or possibly barriers to entry, such as eligibility, selection criteria, or perceived usefulness.

Table 5 Rate the quality of mentorship provided

	Rate the quality of mentorship provided
Very poor	14
Poor	55
Average	143
Good	106
Very good	74
Grand Total	**392**

The majority of respondents (36.5%) rated mentorship as "Average", indicating that while mentorship is present, it may not be deeply impactful or personalized for many students. 27.0% of respondents rated it as "Good", and 18.9% as "Very Good" — together comprising 45.9%, which reflects a moderately positive perception of the mentorship experience. However, a significant portion (17.6%) rated the quality as either "Poor" (14%) or "Very Poor" (3.6%), suggesting that for some, the mentorship lacked effectiveness, consistency, or relevance.



Graph 5 Rate the quality of mentorship provided

These responses suggest that mentorship in student incubation programs is functional but inconsistent in quality. A notable number of students are not fully satisfied, which might be due to: Limited mentor availability or experience, Infrequent interactions, Generic guidance that doesn't meet specific startup needs. Programs rated as "good" or "very good" likely had structured mentoring systems, committed mentors, and accessible communication channels.

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.580a	.336	.334	.597

a. Predictors: (Constant), Entrepreneurship mindset development program

R (Correlation Coefficient = 0.580) Indicates a moderate positive correlation between entrepreneurship mindset development and the ability to launch startups. This means students who are exposed to such development programs tend to be better prepared or more capable of launching startups.

R Square (Coefficient of Determination = 0.336) 33.6% of the variance in students' ability to launch startups is explained by the academic entrepreneurship mindset development programme. This shows a

substantial impact, although other variables also play a role.

Adjusted R Square (0.334) A more accurate measure after adjusting for the number of predictors. Very close to R^2, indicating a reliable model with a single predictor.

Standard Error of the Estimate (0.597) Measures the average distance between observed and predicted values. A value under 1 suggests reasonable prediction accuracy. The results indicate that entrepreneurship mindset development programs in academics do have a significant effect on students' startup readiness. Since R Square = 0.336 and R = 0.580, it provides strong evidence to reject the null hypothesis (H_{01}). Therefore, we conclude that the presence or absence of entrepreneurship mindset development programs significantly impacts the ability of student entrepreneurs to launch their startups.

Table 7 ANOVA[a]

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	70.404	1	70.404	197.512	.000[b]
	Residual	139.018	390	.356		
	Total	209.423	391			
a. Dependent Variable: Student entrepreneurs to launch their startups						
b. Predictors: (Constant), Entrepreneurship mindset development program						

Sum of Squares: Regression SS (70.404): The variation in the dependent variable explained by the predictor. Residual SS (139.018): The variation that remains unexplained (error). Total SS (209.423): Total variance in the dataset. Degrees of Freedom (df): Regression df = 1 (only one independent variable). Residual df = 390 (n - k - 1, where n = 392, k = 1). Total df = 391 (n - 1)

Mean Square: Computed as Sum of Squares / df. Regression Mean Square = 70.404 / 1 = 70.404 Residual Mean Square = 139.018 / 390 ≈ 0.356.

F-value (197.512): Represents the ratio of explained variance to unexplained variance. A higher F-value indicates that the model explains a significantly higher amount of variance than expected by chance.

Significance (Sig. or p-value = .000): $p < 0.05 \Rightarrow$ The model is statistically significant. In this case, p = 0.000, which is much less than 0.05, so the regression model is highly significant. The ANOVA results confirm that the entrepreneurship mindset development programme significantly affects student entrepreneurs' ability to launch startups. The null hypothesis (H_{01}) can be rejected. This supports the idea that academic programmes focused on entrepreneurial mindset development are crucial to fostering startup success among students in Kerala.

Discussion

Incubation and mentorship programs are widely regarded as critical enablers for entrepreneurial development, particularly for first-time entrepreneurs such as students. In the context of this study, the effectiveness of these support mechanisms was assessed through multiple dimensions, including awareness, participation, perceived benefits, and outcome-based metrics. The findings provide a nuanced understanding of how well these initiatives function in practice across higher education institutions in Kerala. A significant 83.7% (n=328) of respondents were aware of incubation programs in their respective institutions. This indicates that institutions have, to a considerable extent, succeeded in disseminating information regarding entrepreneurial support structures.Among the aware students, a substantial 78.8% (n=309) had participated in either an incubation or mentorship program. This high participation rate reflects growing student interest and institutional efforts to integrate entrepreneurship into the academic experience. Students primarily came to know about these programs through: University/College Notifications (37.8%), Social Media (35.5%), Friends/Peers (15.6%) and Startup Events (11.2%). This shows that digital platforms and formal institutional channels are the most effective in promoting program visibility, while peer influence and ecosystem events play a supplementary role. Participants were asked to rate the overall support provided by the incubation programs, and the responses were as follows: Very Good – 90 (23%), Good – 159 (40.6%), Average – 96 (24.5%), Poor – 35 (8.9%) and Very Poor – 12 (3%) These findings indicate that nearly two-thirds (63.6%) of respondents rated the support as good or very good, suggesting a generally positive perception. However, the 32.4% who rated it as average or below suggest that there is still substantial room for improvement, especially in personalization and continuity of support.

CONCLUSION

Entrepreneurship has emerged as a vital pillar in driving innovation, employment, and economic development, particularly in developing economies like India. Kerala, known for its high literacy rate and strong educational infrastructure, has become a fertile ground for nurturing student-led startups. With the launch of national initiatives such as Startup India, and the establishment of incubation centers across universities, the state has witnessed a surge in student entrepreneurial activities. However, despite the presence of structured support systems, student entrepreneurs continue to face significant barriers in launching and sustaining their startups. Incubation and mentorship programs are widely regarded as critical enablers for entrepreneurial development, particularly for first-time entrepreneurs such as students. In the context of this study, the effectiveness of these support mechanisms was assessed through multiple dimensions, including awareness, participation, perceived benefits, and outcome-based metrics.

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