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Evaluation Determinants of Entrepreneurship Growth: An Empirical Study

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Abstract: ***Entrepreneurship is essentially acknowledged as a key driver for economic growth, innovation, and employment creation. With financial capital and various institutional support, the role of human capital in promoting entrepreneurship growth has received comparatively less empirical attention. This study evaluates how entrepreneurial skills, education, and training influence entrepreneurship growth. The primary data were gathered from 200 entrepreneurs using a structured questionnaire under the Likert scale, and the data were analysed using descriptive statistics, correlation analysis, and multiple regression techniques. The result of the study shows that entrepreneurial skills, education, and training significantly influence entrepreneurship growth, with training emerging as the greater determinant. The study lightens the underscore of inculcating skill development, education, and training into entrepreneurship development policies and programs that support entrepreneurship development.***

Keywords: Entrepreneurial Skills, Entrepreneurship Education, Training, Entrepreneurship Growth, Empirical Study

1. Introduction

Entrepreneurship plays a crucial role in the Country economic development by promoting the innovation, creating job opportunities, and encouraging the inclusive growth. In developing economies such as India, entrepreneurship is considered a strategic payer for addressing evils of economics such as unemployment, poverty, regional disparities and others. Over the past decade, policy support such as Startup eco system and Skill India have boost the entrepreneurial ecosystem. Despite these efforts, many entrepreneurial activities suggest to achieve sustainable growth.

Existing entrepreneurship literature has focused on the financial capital, market access, and institutional frameworks as influencer of entrepreneur venture growth. However, part studies suggest that human capital factors—particularly entrepreneurial skills, education, and training—are critical for long-term entrepreneurial growth and success. Entrepreneurs with adequate skills, formal education, and practical training are better equipped to recognize opportunities, manage risks, and adapt to changing market conditions. This study Address the role of entrepreneurial skills, education, and training impact on the entrepreneurship growth.

2. Review of Literature

Entrepreneurial skills such as leadership, innovation, risk-taking, and decision-making have been widely recognized as essential for business performance and competitiveness. Prior studies indicate that entrepreneurs possessing strong managerial and cognitive skills are more likely to achieve sustainable growth.

Entrepreneurship education has been found to enhance entrepreneurial mindset, opportunity recognition, and strategic thinking. Education equips entrepreneurs with theoretical knowledge and analytical abilities necessary for effective decision-making. However, scholars argue that education alone may not be sufficient without practical exposure.

Training programs play a crucial role in translating knowledge into practice. Skill-based and experiential training improves operational efficiency, managerial competence, and adaptability to technological changes. While several studies have examined these factors independently, limited empirical research integrates entrepreneurial skills, education, and training into a single analytical framework, particularly in the context of developing economies.

Shabbir and colleagues (2022) provide a systematic review of entrepreneurship education (EE) in higher education, mapping pedagogical trends, learning outcomes, and research gaps. Using a structured search and inclusion criteria, the authors synthesize empirical studies (2004–2021) and report on which EE approaches (experiential, venture incubation, simulation, mentorship) are most consistently associated with outcomes such as entrepreneurial intention, self-efficacy, and nascent venture creation. They note robust evidence linking experiential pedagogy to improved entrepreneurial competencies, but highlight limited longitudinal evidence connecting EE to firm growth metrics. For the current study, their findings justify treating **entrepreneurial education** as a driver of *capability formation* (opportunity recognition, strategic thinking)—a mediating mechanism that likely affects growth indirectly. The review also recommends integrating EE measures with post-training supports (mentoring, incubation) when testing impacts on firm performance.

McKenzie and Puerto (2023) synthesize rigorous experimental and quasi-experimental evidence on entrepreneurship training programs across low- and middle-income countries, with a special focus on randomized evaluations. The authors examine heterogeneity in program design (business basics, financial literacy, management coaching), participant targeting (gender, firm age), and follow-up support (mentoring, market linkages). Methodologically, the paper collates results from multiple field trials and compares short-term changes in business practices to medium-term impacts on profits, sales, and employment. Key findings show consistent improvements in business practices and some increases in formalization and

investment, yet mixed effects on profits- positive in a subset of contexts (e.g., larger or older firms, or when training is combined with mentoring). Importantly for our study, McKenzie & Puerto highlight that training alone often yields limited growth unless it builds specific managerial competencies and is tailored to firm needs; this supports treating *training* as a distinct, measurable determinant of entrepreneurship growth, and suggests investigating interaction effects with education and skills in empirical models.

Morris (2023) evaluates a novel "growth-mindset" training module integrated into entrepreneurship programs, using quasi-experimental methods. The intervention targets cognitive and psychological skills- resilience, learning orientation, and adaptive problem-solving- rather than technical business skills. Outcome measures include venture performance indicators and self-reported entrepreneurial behaviours. Results indicate that growth-mindset training significantly improves entrepreneurs' experimentation behaviour and persistence, and yields positive effects on sales growth for certain subgroups (younger entrepreneurs, early-stage ventures). Methodologically, the study emphasizes psychometric measurement of mindset and the need to control for selection into training. For our empirical model, Morris's findings suggest including psychological skill measures (e.g., resilience, learning orientation) under the umbrella of *entrepreneurial skills*, and testing whether such non-technical skills moderate the effect of formal education and technical training on growth.

Shetty (2024) empirically examines the role of entrepreneurship development programmes (EDPs) in shaping entrepreneurial mindset, motivation, and subsequent business performance. Using survey data from programme participants and employing regression analysis, the study finds that EDPs significantly improve entrepreneurial self-efficacy and intrinsic motivation; these psychological shifts correlate with higher rates of innovation adoption and incremental revenue growth. The paper also highlights program design features that matter- mentorship intensity, follow-up support, and hands-on project work. This study is directly relevant to our topic because it links *training/EDPs* and *education* interventions to observable business outcomes through the mediating channel of mindset and motivation-strengthening the case that skills, education, and training should be modelled together, with attention to mediators such as self-efficacy and innovation propensity.

3. Research Gap Analysis

S. No.	Author(s) & Year	Focus of the Study	Key Findings	Identified Research Gap
1	McKenzie & Puerto (2023)	Impact of entrepreneurship training programs	Training improves business practices; mixed impact on growth	Training examined in isolation; limited integration with education and skills
2	Kummitha (2021)	Entrepreneurship training in business schools	Experiential training enhances opportunity recognition	Focused on education institutions, not enterprise growth outcomes
3	Shabbir et al. (2022)	Entrepreneurship education outcomes	Education improves mindset and intentions	Limited empirical evidence linking education to business growth
4	Morris (2023)	Growth-mindset and entrepreneurial outcomes	Psychological skills improve performance	Focus on mindset; lacks holistic human capital model
5	Shetty (2024)	Entrepreneurship Development Programmes (EDPs)	EDPs enhance motivation and innovation	Limited multi-variable regression analysis

3.1 Summary of Research Gap:

The review of literature reveals that most existing studies examine entrepreneurial skills, education, and training independently, with greater emphasis on financial and institutional determinants of entrepreneurship growth. There is a lack of integrated empirical studies that analyses these human capital variables together, particularly in the Indian context. Moreover, limited research evaluates their relative impact on entrepreneurship growth using regression-based empirical models. The present study addresses these gaps by empirically examining entrepreneurial skills, education, and training as integrated determinants of entrepreneurship growth.

3.2 Research Questions

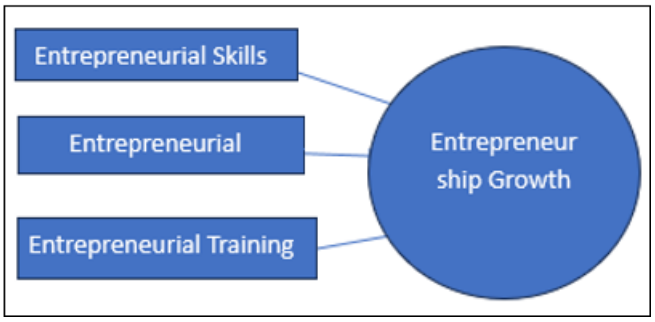
- To what extent do entrepreneurial skills influence entrepreneurship growth?
- How does entrepreneurial education contribute to entrepreneurship growth?
- What is the impact of entrepreneurial training on entrepreneurship growth?
- How do entrepreneurial skills, education, and training jointly determine entrepreneurship growth?

3.3 Research Objectives

- To examine the influence of entrepreneurial skills on entrepreneurship growth.
- To analyses the role of entrepreneurial education in promoting entrepreneurship growth.
- To assess the effect of entrepreneurial training on entrepreneurship growth.
- To evaluate the combined impact of entrepreneurial skills, education, and training on entrepreneurship growth.

3.4 Conceptual Model of the Study:

The conceptual model of the study is grounded in **Human Capital Theory**, which posits that investments in skills, education, and training enhance individual productivity and performance outcomes. In the context of entrepreneurship, entrepreneurial skills, education, and training act as critical human capital inputs that influence entrepreneurship growth. In the proposed model:



Hypotheses of the Study:

- **H1:** Entrepreneurial skills have a significant positive impact on entrepreneurship growth.
- **H2:** Entrepreneurial education has a significant positive impact on entrepreneurship growth.
- **H3:** Entrepreneurial training has a significant positive impact on entrepreneurship growth.

Measurement & Testing Alignment:

Hypothesis	Variables Involved	Statistical Tool
H1	Entrepreneurial Skills → Growth	Correlation, Regression
H2	Entrepreneurial Education → Growth	Correlation, Regression
H3	Entrepreneurial Training → Growth	Correlation, Regression

3.5 Descriptive Analysis:

3.5.1 Demographic Profile of the Respondents:

Descriptive statistics were used to analyses the demographic characteristics of the respondents, including gender, age group, educational qualification, type of business, and years of business experience. The results indicate that a majority of respondents are male entrepreneurs and belong to the younger age group, suggesting increasing entrepreneurial participation among youth. Most respondents possess graduate or postgraduate qualifications, reflecting a relatively educated entrepreneurial population. Service sector enterprises dominate the sample, followed by manufacturing and trading sectors. A significant proportion of respondents are early-stage entrepreneurs with less than five years of business experience.

4. Data Analysis and Interpretation

1) Demographic Analysis

Table 1: Demographic Profile of the Respondents (n = 200)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	120	60
	Female	80	40
Age Group	Below 35 years	90	45
	36–45 years	70	35
	Above 45 years	40	20
Educational Qualification	Graduation	85	42.5
	Post-Graduation	95	47.5
	Professional/Others	20	10
Type of Business	Manufacturing	60	30
	Service	90	45
	Trading	50	25
	Less than 3 years	65	32.5
Business Experience	3–5 years	55	27.5
	6–10 years	50	25
	Above 10 years	30	15

Interpretation:

The demographic profile indicates that a majority of respondents are male entrepreneurs (60%), with significant participation from female entrepreneurs (40%). Most respondents belong to the younger age group below 35 years, suggesting strong entrepreneurial involvement among youth. A high proportion of respondents possess graduation and post-graduation qualifications, indicating adequate educational exposure. The service sector dominates the sample, and a large share of respondents are early-stage entrepreneurs with less than five years of experience.

2) Descriptive Statistics:

Table 2: Descriptive Statistics of Study Variables:

Variable	Mean	Standard Deviation
Entrepreneurial Skills	3.98	0.61
Entrepreneurial Education	3.85	0.64
Entrepreneurial Training	3.91	0.59
Entrepreneurship Growth	4.02	0.56

Interpretation:

The mean values indicate a high level of agreement among respondents regarding the influence of entrepreneurial skills, education, and training on entrepreneurship growth. Entrepreneurship growth has the highest mean score (4.02), suggesting positive performance outcomes. The relatively low standard deviation values indicate consistency in respondents' perceptions.

3) Inferential Analysis

a) Correlation Analysis

Table 3: Correlation Matrix

Variables	Skills	Education	Training	Growth
Entrepreneurial Skills	1			
Entrepreneurial Education	0.62**	1		
Entrepreneurial Training	0.65**	0.59**	1	
Entrepreneurship Growth	0.71**	0.68**	0.73**	1

Note: Correlation is significant at 0.01 level (2-tailed):

Interpretation:

The correlation results reveal a strong and positive relationship between entrepreneurial skills, education, training, and entrepreneurship growth. Entrepreneurial training shows the strongest correlation with entrepreneurship growth (r = 0.73), indicating its critical role in business expansion and sustainability.

b) Multiple Regression Analysis:

Table 4: Model Summary:

R	R Square	Adjusted R Square	Std. Error
0.82	0.67	0.66	0.41

Interpretation:
The model explains 67% of the variation in entrepreneurship growth, demonstrating strong explanatory power of the independent variables.

Table 5: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	92.14	3	30.71	48.62	0
Residual	45.28	196	0.23		
Total	137.42	199			

Interpretation:
The ANOVA results confirm that the regression model is statistically significant ($p < 0.05$).

Table 6: Regression Coefficients:

Variable	B	Std. Error	Beta	t-value	Sig.
Constant	0.84	0.21	—	4	0
Entrepreneurial Skills	0.32	0.05	0.35	6.4	0
Entrepreneurial Education	0.28	0.06	0.29	4.67	0
Entrepreneurial Training	0.36	0.05	0.38	7.2	0

Interpretation:
All three independent variables have a statistically significant positive impact on entrepreneurship growth. Among them, entrepreneurial training has the highest standardized beta coefficient ($\beta = 0.38$), indicating the strongest influence.

c) Hypotheses Testing:

Table 7: Summary of Hypotheses Testing:

Hypothesis	Statement	Result
H1	Entrepreneurial skills significantly influence entrepreneurship growth	Accepted
H2	Entrepreneurial education significantly influences entrepreneurship growth	Accepted
H3	Entrepreneurial training significantly influences entrepreneurship growth	Accepted

5. Findings of the Study

- The demographic profile of the respondents indicates that **60 per cent are male and 40 per cent are female**, reflecting a gradually narrowing gender gap in entrepreneurial participation, though male entrepreneurs continue to constitute a majority.
- Age-wise analysis reveals that **45 per cent of the respondents are below 35 years**, followed by **35 per cent in the 36–45 years category**, indicating that entrepreneurship growth is predominantly driven by younger and middle-aged individuals.
- With respect to educational qualifications, **90 per cent of the respondents possess graduation or post-graduation degrees**, suggesting that higher levels of formal education contribute positively to entrepreneurial engagement and business growth.
- Sector-wise distribution shows that the **service sector accounts for the highest share (45%)**, followed by manufacturing (30%) and trading (25%), highlighting the growing dominance of service-based enterprises in the entrepreneurial ecosystem.
- Descriptive statistics indicate a high level of agreement regarding the study variables, with **entrepreneurship growth recording the highest mean value (4.02)**, followed by entrepreneurial skills (3.98), training (3.91), and education (3.85).
- Correlation analysis reveals a strong and statistically significant positive relationship between entrepreneurial skills, education, training, and entrepreneurship growth, with **entrepreneurial training exhibiting the strongest association ($r = 0.73$, $p < 0.01$)**.
- The multiple regression model explains **67 per cent of the variance in entrepreneurship growth ($R^2 = 0.67$)**, indicating substantial explanatory power of the selected human capital variables.
- Regression results further demonstrate that **entrepreneurial training is the most influential predictor** of entrepreneurship growth (**$\beta = 0.38$, $p < 0.001$**), followed by entrepreneurial skills ($\beta = 0.35$) and entrepreneurial education ($\beta = 0.29$), leading to the acceptance of all formulated hypotheses.

6. Conclusion

The study empirically establishes that entrepreneurial skills, education, and training play a significant and complementary role in fostering entrepreneurship growth. The demographic evidence indicates strong participation of young and educated entrepreneurs, suggesting that human capital formation is a critical driver of contemporary entrepreneurial activity. The dominance of service-sector enterprises further reflects the evolving structure of entrepreneurship in the knowledge-driven economy. Descriptive and inferential analyses confirm that all three human capital variables exhibit strong positive relationships with entrepreneurship growth. The regression results demonstrate substantial explanatory power, with the model accounting for 67 per cent of the variation in entrepreneurial growth outcomes. Among the determinants, entrepreneurial training emerges as the most influential factor, underscoring the importance of practical, skill-oriented, and experiential learning interventions. Entrepreneurial skills and formal education also significantly contribute to growth, reinforcing the relevance of managerial competence and academic foundation in entrepreneurial success. Overall, the findings validate the human capital perspective and emphasize the need for integrated entrepreneurship development policies that combine education, skills enhancement, and structured training programs to promote sustainable entrepreneurship growth.

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