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Attitude Towards Entrepreneurship Among Graduate Students of Kerala – A Study using the EAO (Entrepreneurial Attitude Orientation) Approach

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Abstract
Entrepreneurship is increasingly recognized as a critical engine for economic growth, innovation, and employment, particularly in developing economies. Among the youth, especially graduate students, the intention to pursue entrepreneurial careers is influenced by entrepreneurial education. This study examines the entrepreneurial attitudes of graduate students in Kerala through the Entrepreneurial Attitude Orientation (EAO) model, capturing key dimensions such as achievement, self-esteem, personal control, and innovation. Employing a descriptive research design, data were gathered from a convenience sample of 366 students across multiple colleges in Kerala using a standardized questionnaire. Statistical analyses, including descriptive statistics, and multiple regression, were utilized. Findings indicate that factors like achievement, innovation, personal control, and self-esteem have a significant impact on the entrepreneurial intentions of graduate students in Kerala.

Keywords: Attitudes, EAO model, Entrepreneurship, entrepreneurial intention.

Introduction

Entrepreneurship plays a pivotal role in shaping and strengthening societies across the globe. It serves as a fundamental engine that drives innovation, fosters economic growth, and facilitates social transformation. Entrepreneurs are not just business owners; they are change-makers who create value by introducing new ideas, products, and services that address unmet needs and solve existing problems. Through their ventures, they contribute significantly to both local and national economies by generating employment, attracting investments, and enhancing productivity. In an era marked by global economic uncertainty and rapidly evolving career landscapes, entrepreneurship provides a viable alternative to traditional employment pathways, empowering individuals to create opportunities not just for themselves but for the wider community as well. This is especially meaningful in Kerala, but also confronted with issues such as underemployment and migration of skilled talent.

Entrepreneurship education has emerged as a significant driver of entrepreneurial mindset and behaviour among students. Entrepreneurship education plays a vital role in shaping the attitudes and behaviours of

students, ultimately fostering a culture of enterprise and self-employment **(Karimi et al., 2010)**. Entrepreneurial attitudes, which include an individual's beliefs, values, and perceptions about entrepreneurship, are foundational to the development of entrepreneurial intentions and behaviours.

Entrepreneurial attitude refers to an individual's disposition or inclination toward becoming an entrepreneur, and it significantly influences entrepreneurial intentions and behaviours. Entrepreneurial attitude is the extent to which a person exhibits either a positive or negative orientation toward pursuing an entrepreneurial career **(Karali, 2013)**. This attitude reflects not just the desire to start a business but also encompasses how an individual perceives opportunities, evaluates risks, and handles uncertainty. It is a psychological construct that plays a central role in shaping future entrepreneurial activity. Entrepreneurial attitude serves as a strong predictor of an individual's potential for entrepreneurship. It is a forward-looking measure that helps anticipate whether a person is likely to engage in entrepreneurial activities or pursue self-employment. Such attitudes are often rooted in personal values, life experiences, and contextual influences.

The Entrepreneurial Attitude Orientation (EAO) scale developed by Robinson et al., provides a structured framework for understanding and measuring these attitudes. The EAO scale identifies four core dimensions that significantly influence entrepreneurial attitude such as need for achievement, self-esteem in business, perceived personal control, and innovation in business. Empirical research in various international contexts has repeatedly affirmed that entrepreneurial attitudes more than mere intentions are powerful predictors of entrepreneurial actions. For instance, studies utilizing the EAO approach in diverse cultural and educational contexts, such as Thailand and the United States, have revealed that constructs such as achievement drive, innovation orientation, and perceived control substantially shape whether students will pursue entrepreneurial endeavours **(Harris & Gibson, 2008; Shah et al., 2020)**. Empirical studies indicate that the exposure to entrepreneurship education (EE), particularly when delivered through innovative pedagogical methods, significantly boosts graduate students' propensity towards entrepreneurship by enhancing their confidence, opportunity recognition capability, and sense of agency **(Rahman et al., 2024; Hussain et al., 2021)**. It is also important to recognize that the attitudes held by graduate students towards entrepreneurship are not developed in isolation. Rather, they are shaped by a broader ecosystem that includes university policies, national and local entrepreneurship strategies, social norms, and economic conditions **(Hussain et al., 2021; Wang et al., 2021)**. This study evaluates entrepreneurial attitudes of graduate students in Kerala using the Entrepreneurial Attitude Orientation (EAO) framework. The study focuses on four key dimensions such as achievement, self-esteem, innovation, and personal control to understand students' readiness and motivation to engage in entrepreneurial ventures.

Review of Literature

The Entrepreneurial Attitude Orientation (EAO) model remains a pivotal framework for understanding the multi-dimensional construct of entrepreneurial attitudes. Duong (2021) integrates entrepreneurship education with the Theory of Planned Behaviour (TPB) to reveal a nuanced pathway, wherein education augments entrepreneurial intention indirectly by enhancing attitude toward entrepreneurship and perceived behavioural control, rather than exerting a direct influence **(Duong, 2021)**. The study identified that the moderating variable is emphasized, with economic and business students demonstrating a stronger linkage between entrepreneurial education and entrepreneurial intention compared to their peers in engineering or other disciplines. This underlines the contextual sensitivity of attitude formation and

highlights the EAO model's application across academic subpopulations. The targeted entrepreneurship education programs substantially increase students' achievement orientation, subjective norms, perceived behavioural control, and ultimately, entrepreneurial intentions. The mediation analysis reveals that attitude toward behaviour is a significant mediator in the education-intention nexus, indicating that educational interventions must aim to cultivate positive attitudes alongside imparting skills **(Otache et al., 2019)**. The EAO variables such as achievement, innovation, and personal control as robust predictors of positive entrepreneurial attitudes. The dimension of self-esteem, however, did not exhibit significant influence, suggesting the possibility of socio-cultural moderations affecting specific EAO components **(Soomro et al., 2020)**. The contextual antecedents such as access to startup capital, business information, supportive university environments, and social networks significantly bolster student entrepreneurial orientation, which in turn positively impacts entrepreneurial intention **(Sahoo and Panda 2019)**.

Akhtar et al. (2022) systematically decompose entrepreneurial orientation into its constituent dimensions, such as innovativeness and opportunity recognition, establishing the positive influence of these traits (coupled with robust entrepreneurship education) on entrepreneurial intention. The inclusion of gender and educational delivery as moderating variables adds further sophistication to our understanding of how educational and demographic contexts interact to shape attitudes **(Akhtar et al., 2022)**. The entrepreneurship education as a partial mediator between attitude/perceived behavioural control and entrepreneurial intention, and a full mediator concerning self-efficacy. This nuanced insight implies that educational interventions can not only reinforce entrepreneurial attitudes as measured by EAO but can also compensate for weaker domains such as self-efficacy **(Song et al., 2021)**. Institutional support structures, as identified in large-scale Chinese studies, also exhibit positive effects on all four EAO dimensions through enhanced attitudes, subjective norms, and self-efficacy a chain that ultimately strengthens entrepreneurial intention. However, student satisfaction with such university supports is moderate, indicating room for policy improvement and for more targeted, student-responsive interventions **(Pan et al., 2021)**.

Objective of the study

- To analyse the entrepreneurial attitudes of graduate students in Kerala using the Entrepreneurial Attitude Orientation (EAO) framework

Research Methodology

This study investigates the attitudes towards entrepreneurship among graduate students in Kerala, utilizing the Entrepreneurial Attitude Orientation (EAO) framework. The study used a descriptive research design and the target population comprises graduate students enrolled in arts and science colleges in Kerala, from B. Com and BBA. The sample size was set at 366 students from colleges affiliated with Calicut University. Primary data was obtained via a structured questionnaire based on the established Entrepreneurial Attitude Orientation (EAO) scale. The questionnaire is divided into: Section A consist of demographic variables and Section B consist of EAO items. Statistical analyses were conducted using SPSS. The researcher used Descriptive statistics and Inferential statistics such as, one-way ANOVA, Exploratory Factor Analysis (EFA), Multiple regression for analysing the collected data.

Analysis and Discussion

Table 1 Demographic Profile of the respondents

		Frequency	Percent
Gender	Male	154	42.1
	Female	212	57.9
	Total	***366***	***100.0***
Income of the Parent	Below 25,000	56	15.3
	25,001 - 50,000	174	47.5
	50,001 - 75,000	120	32.8
	Above 75,000	16	4.4
	Total	***366***	***100.0***
Area of Residence	Rural	104	28.4
	Urban	135	36.9
	Semi-Urban	127	34.7
	Total	***366***	***100.0***
Occupation of the Parent	Private Employee	143	39.1
	Govt. Employee	79	21.6
	Business	88	24.0
	Others	56	15.3
	Total	***366***	***100.0***
Course of Study	B. Com	264	72.1
	BBA	102	27.9
	Total	***366***	***100.0***

(Computed from primary data)

The above table provide a demographic profile of the respondents. Out of the total 366 respondents, a higher proportion were female (57.9%) compared to male respondents (42.1%). Regarding parental income, the majority of respondents (47.5%) reported that their parents earn between ₹25,001 and ₹50,000 per month. This is followed by 32.8% whose parental income falls in the ₹50,001–₹75,000 range. A smaller segment (15.3%) comes from families earning below ₹25,000, and only 4.4% reported a monthly family income above ₹75,000. These findings suggest that most students come from middle-income households, which could influence their entrepreneurial aspirations and access to startup capital. In terms of residence, students were fairly distributed among urban (36.9%), semi-urban (34.7%), and rural (28.4%) areas. The occupational background of the respondents' parents indicates that the largest group (39.1%) are employed in the private sector, followed by those in business (24.0%) and government service (21.6%). A smaller proportion (15.3%) reported other types of parental occupation. In terms of academic background, a significant majority (72.1%) of the respondents were pursuing a Bachelor of Commerce (B. Com), while 27.9% were Bachelor of Business Administration (BBA) students.

Table 2 Reliability Statistics

Variables	Cronbach's Alpha	No of Items
Achievement	0.805	4
Innovation	0.834	3
Personal Control	0.886	3
Self-Esteem	0.893	3
Entrepreneurial Intention	0.886	5

(Computed from primary data)

The reliability analysis of the study variables, as shown in Table 2, indicates strong internal consistency for all constructs, with Cronbach's Alpha values ranging from 0.805 to 0.893. The highest reliability was observed for the self-esteem scale (0.893), followed closely by personal control (0.886) and entrepreneurial intention (0.886), while innovation and achievement recorded alpha values of 0.834 and 0.805 respectively.

Table 3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.845
Bartlett's Test of Sphericity	Approx. Chi-Square	3013.344
	df	78
	Sig.	0.000

(Computed from primary data)

The results of the KMO and Bartlett's Test, as presented in Table 3, indicate the suitability of the data for factor analysis. The Kaiser-Meyer-Olkin (KMO) value is 0.845, which is well above the recommended threshold of 0.6, suggesting that the sample size is adequate and the variables share sufficient common variance. Bartlett's Test of Sphericity is significant (Chi-square = 3013.344, df = 78, $p < 0.001$), confirming that the correlation matrix is not an identity matrix and that meaningful factor extraction is possible. These results validate the appropriateness of conducting factor analysis on the dataset.

Table 4 Exploratory Factor Analysis - Rotated Component Matrix

Items	Component			
	1	2	3	4
I enjoy working hard to meet challenging goals in business.	.883			
I am motivated to achieve success through my own entrepreneurial efforts.	.877			
I believe personal achievements in entrepreneurship are more rewarding than traditional employment.	.789			

I take pride in accomplishing difficult tasks on my own.	.691			
I am willing to experiment with creative solutions to problems.		.860		
I believe innovation is essential for entrepreneurial success.		.858		
I am interested in developing new and original business ideas.		.839		
I prefer to make my own decisions rather than rely on others.			.886	
I feel confident in my ability to manage my own business.			.885	
I believe I have the skills needed to lead a business venture.			.839	
I trust in my ability to overcome challenges as an entrepreneur.				.848
I feel proud when I think about running my own business.				.815
I believe I have what it takes to be a successful entrepreneur.				.788

(Computed from primary data)

The results of the Exploratory Factor Analysis (EFA), as shown in Table 4, reveal a clear four-factor structure based on the rotated component matrix. Each item loaded strongly on one distinct component, indicating good factor separation and construct clarity. The first component represents Achievement Orientation, with high loadings on items related to goal setting, personal success, and pride in accomplishing difficult tasks. The second component reflects Innovation Orientation, encompassing items that emphasize creativity, originality, and the importance of innovation in entrepreneurship. The third component corresponds to Personal Control, including items related to self-reliance, confidence in decision-making, and leadership abilities. The fourth component captures Self-Esteem, demonstrated by high loadings on items expressing belief in one's entrepreneurial capabilities and pride in pursuing entrepreneurship. All factor loadings are well above the acceptable threshold of 0.60, suggesting strong correlations between the items and their respective components. These findings confirm the construct validity of the instrument and support the use of these four dimensions in assessing entrepreneurial attitudes among graduate students.

The results of the Total Variance Explained, derived through Principal Component Analysis, show that four components have eigenvalues greater than 1, indicating their significance in explaining the variance in the data. The Achievement Orientation accounts for 43.06% of the total variance, followed by the Innovation Orientation, Personal Controls, and Self-Esteem, which explain 13.35%, 12.76%, and 9.82% of the variance respectively. Together, these four components explain a cumulative 78.99% of the total variance, suggesting a robust factor structure.

Table 5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.682[a]	0.465	0.459	2.90171
a. Dependent Variable: Entrepreneurial Intention				
b. Predictors: (Constant), Innovation, Personal Control, Achievement, Self-esteem				

(Computed from primary data)

Table 5 demonstrates the strength of the relationship between the independent variables (achievement, innovation, personal control, and self-esteem) and the dependent variable, entrepreneurial intention. The multiple correlation coefficient (R) is 0.682, indicating a moderately strong positive relationship between the predictors and entrepreneurial intention. The R Square value of 0.465 implies that approximately 46.5% of the variation in entrepreneurial intention can be explained by the combined effect of the four independent variables. The Adjusted R Square value of 0.459 accounts for the number of predictors in the model and suggests a good fit. The standard error of the estimate is 2.90, indicating the average distance between the observed values and the predicted values. Overall, the model demonstrates a meaningful level of explanatory power in identifying the factors influencing entrepreneurial intention among graduate students.

Table 6 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2645.639	4	661.410	78.553	.000[b]
	Residual	3039.596	361	8.420		
	Total	5685.235	365			
a. Dependent Variable: Entrepreneurial Intention						
b. Predictors: (Constant), Innovation, Personal Control, Achievement, Self-esteem						

(Computed from primary data)

The ANOVA results in Table 6 assess the overall significance of the regression model used to predict entrepreneurial intention. The F-value is 78.553, with a corresponding significance level (p-value) of 0.000, indicating that the model is statistically significant at the 1% level. This means that the combination of the independent variables—achievement, innovation, personal control, and self-esteem—significantly predicts the dependent variable, entrepreneurial intention. The regression sum of squares (2645.639) compared to the residual sum of squares (3039.596) further supports that a substantial portion of the total variance in entrepreneurial intention is explained by the model. Therefore, the results confirm that the

independent variables collectively contribute meaningfully to variations in entrepreneurial intention among graduate students.

Conclusion

Entrepreneurship has become a vital driver of innovation, economic development, and employment generation, particularly in emerging economies. This study aimed to explore the key factors namely achievement, innovation, personal control, and self-esteem that influence entrepreneurial intention among graduate students.The Exploratory Factor Analysis revealed a well-defined theoretical constructs of achievement, innovation, personal control, and self-esteem. To further understand the impact of these factors on entrepreneurial intention, a multiple linear regression model was constructed. The Model Summary table revealed an R value of 0.682 and an R-square of 0.465. The ANOVA results confirmed the statistical significance of the regression model. From a theoretical perspective, the findings support existing model of Robinson Entrepreneurial Attitude Orientation, which emphasize the role of personal attitudes, perceived control, and self-efficacy in shaping entrepreneurial intentions. The study has provided clear evidence that achievement motivation, innovation orientation, perceived personal control, and self-esteem are significant drivers of entrepreneurial intention among graduate students.

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