

# Attitude towards Entrepreneurship among Engineering Students - A Comparative Study

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## Abstract

*Entrepreneurship is a symbol of business growth and strength which requires competency, skills and knowledge. Researchers from many countries point out gender gap in the choice of entrepreneurship for various socio-economic reasons. This gap in choice of entrepreneurship is wider as compared to gender difference in the labor force participation rates in India. This study has been conducted to investigate whether or not, there is gender differential attitudes in the choice of entrepreneurship as the career option upon completion of graduation among the students of engineering colleges in Indore district of MP in India. In this era of digitalization and technological innovations budding engineers both male and female, have plenty of opportunities for starting entrepreneurship. The study was based on primary data and respondents were selected from undergraduate students (male and female) pursuing engineering education. Both in the public and the private engineering college the statistical test of ANOVA among multiple groups of respondents shows that there is no difference in level of entrepreneurial attitude between male and female students of engineering colleges. The findings of the present study are different from findings of previous studies on gender bias attitude towards entrepreneurship.*

**Keywords:** *Entrepreneurship, Attitude, Entrepreneurship, Gender gap, engineering students*

## Introduction

According to cognitive psychology, attitude defines the tendency to react in a particular way pertaining to object (Ajzen 1982; Ajzen 1991; Fishbein and Azjen, 1975; Rosenberg and Hovland 1960; Shaver 1987). It is an intricate perspective including values, feelings, beliefs and nature to act in a specific manner. Generally, more positive the attitude towards the behavior, stronger the person's intention to execute it. Apart from source of the revenue conditions, the enthusiasm of the young or the new entrepreneurs is depended on their individual attitudes, choices, purposes, strengths, interests and skills. Gibb (1987) explained attitude towards entrepreneurship as a set of attitudes, principles and beliefs that operate within individual creating both entrepreneurial intention and aspiration towards

self-employment.

In the study of Garavan and O' Cinneide (1994), three foremost features of entrepreneurs are their attitudes, knowledge and skills. Attitude is the psychosocial forces and the cultural context of individual, and has much role in influencing entrepreneurial behavior patterns. According to Timmons and Spinelli (2009), attitude plays a significant role in the life of successful entrepreneur. Attitude towards entrepreneurship is the degree to which a person holds an evaluation about being an entrepreneur (Ajzen, 1991). Liñán, et al. (2011) terms the attitude towards entrepreneurship as ones associations about an entrepreneur. Attitudes toward entrepreneurship affects the extent to which interested persons will take the risks to establish a new venture. It is observed that entrepreneurship needs incomparable abilities so few people gets attracted towards it, if discredit is attached to failure, less individuals will interested to take risks (Baumol, 1996; Wagner and

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Sternberg, 2004). Educators and practitioners may influence entrepreneurial attitudes of students. So, for the growing entrepreneurial intention among the students, it is essential to increase positive attitude towards entrepreneurship, therefore attitude can be regarded as the stepping stone to entrepreneurial intentions Hannan et al (2004). Esenjor (1992) finds that sustainable growth and development of a country depends on the creative skills of the people who effectively and efficiently use their ability and productive labour force to convert natural resources into valuable and useful products which are practically applicable. Hence, the present study was undertaken to compare attitude towards entrepreneurship of male and female students of public and private engineering institutes. Engineering students highly oriented in technological skills which they can use in starting new venture in the world technological disruption. Thus, this is a field for new ongoing research to ascertain how many engineering graduates probably take the path of entrepreneurship. Now a days, there are a number of female students graduating with engineering degree . Then research question is whether or not there is any gender dimension in attitude towards entrepreneurship.

## Review of Literature

Attitude can be termed as a learned tendency to react in constantly favorable or unfavorable manner with respect to given object (Shaver, 1987; Ajzen, 1982; Fishbein and Ajzen, 1975 and Rosenberg and Hovland, 1960). Attitude is comparatively less lucid than personality and can be changed across situations and time in response to individual's networks and with environment (Robinson et al., 1991a). According to Kuehn (2008) there are many pragmatic methods for instructors to influence student intentions and attitudes toward entrepreneurship, majority of which are effortlessly accomplished in college or university. Harris and

Gibson (2008) examine the entrepreneurial attitude of undergraduates registered in small business programs at various universities in the USA with sample size 216 students. The results specify that most of the students have entrepreneurial attitudes; moreover, the student characteristics and entrepreneurial experience are found to be allied with some particular entrepreneurial attitudes; more precisely male students record higher on both personal and control innovation as compared to the female students. The students with family business experience have developed entrepreneurial attitudes. Crant (1996) in his study on a group of undergraduates and graduates noticed that attitude towards entrepreneurship amongst the respondents had significant relationship with family with business interest, education, gender and an individual inclination toward entrepreneurship. Mazzarol et al., (1999) find positive attitude to set up their own business by a group of West Australian entrepreneurs based on the demographic variables such as gender, age, ethnicity, educational level, family business experience and previous work experience.

Kgagara (2011) assesses the perceptions and attitude towards entrepreneurship among the students in a higher education institution in the Sedibeng District of Gauteng province based on data obtained from 166 university students. The results revealed that the majority of the respondents were predominantly young black Africans from the lower income families and majority of them had favorable attitude towards entrepreneurship as a career. Van Wyk et al. (2003) have explored the correlation among entrepreneurial attitude orientation and different personality, demographic and work related variables established on a sample of 175 accountants, 200 pharmacists and 375 professionals. The personality traits measured were career orientations, self-concept and internal-external locus of control and

the work related variables were job involvement and job satisfaction. They find noteworthy relation between personalities, entrepreneurial attitude and work related variables are also identified some strong predictors of different entrepreneurial attitude. Entrepreneurial attitude is the choice of individual to become self-employed rather than working in an organization. A number of researchers carried out a number of studies which aimed to explore youth attitude towards entrepreneurship (Mohamed, et al., 2012; Mothabeng, 2012; Keat et al., 2011; Volkmann and Tokarski, 2009; Goel et al., 2007). However, only a few researchers conducted the research to explore attitude towards entrepreneurship among engineering students. Basu et al. (2020) find in their sample of 300 MBA students of a reputed institute that, perceived self-efficacy and social behavioral control influence the career choice between self employment and employment. While knowledge considerably improves perceived self efficacy, it does not immediately lead to selection of self employment. According to Global Entrepreneurship monitoring (GEM, 2016/2017), Indian are quite entrepreneurial as 44% of adult in the age group of 18-64 consider this as desirable. Factor that influence the choice entrepreneurship are finance, socio-cultural norms and education & training. Challenges of women entrepreneurship are different from that of male counterpart. While general favorable eco-system and attitude play crucial role, for women socio-cultural factors constraints prevent women to choose entrepreneurship as the career. As per UNDP gender equality index in India is abysmally low (127 out of 144 countries) (UNDP, 2018). Women have less opportunity to access market (Vembly and Basil, 2018). Abidi and Faisal (2018) point out a number of factors such as formal training in business school, finance, legal aids and market access that are hindrance for women to start entrepreneurship in Saudi Arabia. Therefore, this study is an attempt to investigate gender differential

attitude to entrepreneurship among male and female students of the private and the public engineering institutes.

## Research Methodology

The present investigation is based on exploratory research inquiry and compare the attitude towards entrepreneurship among engineering students in Indore district. The study is based on primary data that are collected through the use of questionnaire and aims to compare attitude towards entrepreneurship among male and female students of engineering institutes of Indore district.

### (i) Universe of the Study:

The study is confined to compare attitude towards entrepreneurship among engineering students in Indore district of Madhya Pradesh, India. Indore is known as the Educational hub of Madhya Pradesh. As per Directorate of Technical Education, Madhya Pradesh 2018 total number of students pursuing Engineering institute in Indore are 47460.

### (ii) Sampling:

Stage one: Selection of Engineering Institutes

In stage one, all government and eight private engineering institutes in Indore district which had highest intake of students as per Directorate of Technical Education, Madhya Pradesh 2018 were taken for study.

### Stage two: Selection of students

In Stage two, a total of 600 students from the selected group of engineering institutes were interviewed. The numbers of students selected for study were 300 male student (150 from government institute and 150 from private institutes) and 300 female students (150 from government institute and 150 from private institutes). An attempt was made to include students from all selected engineering institutes were interviewed.

### Tools for data collection

This research being quantitative, close ended questionnaire was used to collect relevant data. The research instrument used to collect data was based on Liñán and Chen (2009); Asmara, et al. (2016); and Lúthje and Franke (2003). The questionnaire consists of 12 close-ended questions on an interval scale. Respondents were asked to indicate their degree of agreement with each of the questions on a five-point Likert scale. Secondary data were collected through various research magazines, journals and newspapers.

### Objectives

This study is essentially investigating differential attitude of engineering students from gender perspective in the private and public engineering colleges. Prior to our research there is another study by Bazan et al. (2019) on gender differential attitude towards entrepreneurship.

### Hypothesis

H01: There is no significant differential attitude towards Entrepreneurship as a career option among male and female students of the Government and the Private engineering colleges

### Tools for data analysis

One sample KS test, One way ANOVA, Tukey HSD test, Cronbach's alpha and mean have been used to compare attitude towards entrepreneurship of students among male and female of bot the private and the public engineering college. Data were analyzed using Statistical package of the Social Science (SPSS).

### Item total correlation

Questionnaire adopted in this study consisted of 12 questions; item total correlation was used in order to check the normality of the sample. As the sample size was 600, item with correlation value less than

0.1948 should be dropped. All the items in the study had correlation values more than 0.1948 thus; no item was dropped from the questionnaire.

### Reliability of the measures

Reliability of the measures was assessed with the use of Cronbach's alpha on all the 12 items. Cronbach's alpha is designed as a measure of internal consistency. It allows us to measure the reliability of different variables. It consists of estimates of how much variation in scores of different variables is attributable to chance or random errors (Selltiz et al., 1976). As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Nunnally, 1978). The Cronbach's alpha for the questionnaire is (0.916) shown in table 1 and hence reliability test is at acceptable level.

**Table 1: Cronbach Alpha**

Reliability Statistics	
Cronbach's Alpha	No. of Items
916	12

**Table 2: One-Sample Kolmogorov-Smirnov Test Attitude towards Entrepreneurship- BE**

One-Sample Kolmogorov-Smirnov Test		
		VAR00001
N		600
Normal Parameters <sup>a,b</sup>	Mean	3.8186
	Std. Deviation	.82669
Most Extreme Differences	Absolute	.076
	Positive	.076
	Negative	-.072
Kolmogorov-Smirnov Z		1.874
Asymp. Sig. (2-tailed)		.072

a. Test distribution is Normal.

b. Calculated from data.

### Kolmogorov- Smirnov Test

Kolmogorov- Smirnov test is performed to test one dimensional nonparametric sample data for normal distribution. This test is essential to decide whether or not ANOVA test is appropriate or not. The results of the test (table-2) show that values in attitude towards entrepreneurship among students follow normal distribution hence ANOVA can be used for comparing means.

## Results and Discussion

### Results of One way ANOVA

One way ANOVA is testing is carried out taking responses of all groups i.e. the test is done taking multiple dependent and independent variables at

a time. Table 3 depicts that the F value for among groups is 1.305 and p value is 0.272 therefore, null hypothesis H01 is not rejected. There is no significant differences in attitudes of male and female students in both categories. It means that attitude towards entrepreneurship of male and female students in the government and the private engineering institutes does not differ in their mean values. Male students studying in private engineering institutes are having mean value of 3.91, male students studying in government engineering institutes with mean value of 3.83. While, female students studying in the private engineering institutes have mean values of 3.72 and female students studying in the government engineering institutes have mean values of 3.79.

**Table 3: One way Anova**

ANOVA					
VAR00001 (Attitude)					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.672	3	.891	1.305	.272
Within Groups	406.698	596	.682		
Total	409.370	599			

**Table 4: Tukey's HSD Post Hoc Tests**

Multiple Comparisons							
Dependent Variable: VAR00001(Attitude)							
	(I)	(J)	Mean Dif- ference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Govt. Male	Pvt. Male	-.07611	.09539	.855	-.3219	.1696
		Govt. Fe- male	.03722	.09539	.980	-.2085	.2830
		Pvt. Female	.10889	.09539	.664	-.1369	.3546
	Pvt. Male	Govt. Male	.07611	.09539	.855	-.1696	.3219
		Govt. Fe- male	.11333	.09539	.635	-.1324	.3591
		Pvt. Female	.18500	.09539	.213	-.0607	.4307
	Govt. Female	Govt. Male	-.03722	.09539	.980	-.2830	.2085
		Pvt. Male	-.11333	.09539	.635	-.3591	.1324
		Pvt. Female	.07167	.09539	.876	-.1741	.3174
	Pvt. Fe- male	Govt. Male	-.10889	.09539	.664	-.3546	.1369
		Pvt. Male	-.18500	.09539	.213	-.4307	.0607
		Govt. Fe- male	-.07167	.09539	.876	-.3174	.1741

Tukey's HSD Post Hoc test is carried out to investigate where or not difference in attitude exists among smaller groups. Permutation of six groups i.e., 1. male students of the government engineering institutes and male students of the private engineering institutes; 2. male students of the government engineering institutes and female students of the government engineering institutes; 3. male students of the government engineering institutes and female students of the private engineering institutes; 4. male students of the private engineering institutes and female students of the government engineering institutes; 5. male students of the private engineering institutes and female students of the private engineering institutes; 6. female students of the government engineering institutes and female students of the private engineering institutes, Tukey HSD test results are presented in (Table 4). Table 4 p value of all six groups are 0.855, 0.980, 0.664, 0.635, 0.213 and 0.876 respectively. Hence, it can be inferred that there is no significant difference between male students of the government engineering institutes and male students of the private engineering institutes; male students of government engineering institutes and female students of government engineering institutes; male students of the government engineering institutes and female students of the private engineering institutes; male students of the private engineering institutes and female students of the government engineering institutes; male students of the private engineering institutes and female students of the private engineering institutes; female students of the government engineering institutes and female students of the private engineering institutes with respect to attitude towards entrepreneurship. This result supports the finding of Dabić et al., (2012); Dolton and Makepeace (1990). Mothabeng (2012); Tsegaye (2015) and Hussain et al. (2018) conclude that there was no significant difference exists

between male and female students' attitude towards entrepreneurship. Thus, the results of the current study support the previous research findings.

## Conclusion

Entrepreneurs are acknowledged as essential drivers of social and economic progress, and entrepreneurial initiatives for individuals can be viewed as key factor for economic development of a country. Therefore, educational institutes are expected to play a major role in influencing student's attitude towards entrepreneurship. Results of the present study show that attitude towards entrepreneurship of male and female students in the government and the private engineering institutes do not significantly differ in their mean values. This reflects that female inclination towards entrepreneurship as a career option is equally motivated as male. Hence, institutes should develop programs to encourage students to consider their entrepreneurial career. The results of this study also have implications for educationalists looking to gain a better understanding of students' psychosomatic characteristics and entrepreneurial attitude. Such research would provide insight into how to develop programs so as to improve specific attributes that can lead individuals to be more entrepreneurial. Both government and private institutions should focus on sound theoretical frameworks in order to develop and implement effective educational strategies in order to promote attitude towards entrepreneurship.

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