

Clustering Entrepreneurial Potential in Commerce Students of Banaras Hindu University: An Assessment

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Abstract

Objectives: The present study is concerned with to finding out (a) the difference in entrepreneurial potential among UG and PG commerce students; (b) entrepreneurial potential asymmetry among boys and girls students; (c) the influences of select demographic variable on the entrepreneurial potential; (d) finally, **clustering entrepreneurial potential** in high, medium and low potential.

Research Design: The study is exploratory in nature based on structured questionnaire with 210 respondents complying sampling adequacy in the ratio of 2:1 among UG and PG commerce students of Banaras Hindu University selected through proportionate stratified random sampling technique. The structured questionnaire with ten point scales of **Don Macke and Deb Markley (June, 2003)** focused on Motivation, Capacity- Skill, Capacity- Networking, Family Supports and Demographic Factors have been used for the study.

Findings: The study found that on the basis of community and family support there is significant statistical difference among boys and girls. In UG & PG students on the basis of motivation and capacity- networking/partnering, identified significant statistical difference. Out of the three select demographic variables only one factor i.e. income has impact on student's capacity-skill.

Conclusions: The overall picture of the study shows that the boys and girls are having symmetrical entrepreneurial capacity except family support. In UG& PG students have some difference in some factors but more or less they are all of equal entrepreneurial potential. Further, demographic variable have no impact on the entrepreneur potential exception is income. Lastly, it has been observed there is presence of heterogeneity in composite entrepreneurial potential score in commerce students.

Practical Implications: Identification of the entrepreneurial potential of any individual in the earlier level (stage) will help in shaping their future and building up their potential in a scientific way so that they could succeed in their business. Identifying entrepreneurial potential means more starts up and rapid economic growth resulting unemployment solution.

Keywords:

Individual identity, Entrepreneurship, Potential, Commerce students, Motivation, Capacity, Skills, Networking, Partnering, Cluster analysis, Family Support and BHU.

Introduction:

The commerce education in India provided at three levels in general viz: at higher secondary, college and university level. These three levels have to be viewed and responded differently. At the school level education commerce is not given due importance. The undergraduate level commerce education is facing innumerable challenges for the survival which face competition with UG professional programme in general. The content and focus of B.Com programme including entrepreneurship has been changed and modified to make it more practical and professional during past several years. Even today commerce graduate are not employable directly unless they are re-trained. As a result huge unemployed commerce graduate across the country. In fact, unemployment is one of the greatest social and economical issues in the India. India ranks 93rd position in world ranking in unemployment (www.indexmundi.com). The overall unemployment rate in India is 4.7 percent, the urban unemployment rate is 5.7 percent and rural unemployment rate is 4.4 percent. (www.indianexpress.com/news/).

The close interrelationship between growth, employment and poverty has long been a meter of long debate and dispute among the economist. The “trickle down” theory of economic growth has long lost its relevance and it is now well recognized that the growth may not be enough to achieve the objective of unemployment and reduction of poverty. In the case of India, despite having high overall growth rate, the extent and quality of employment generation has been low. The employment generation has mostly come from the low productivity informal sector. According to estimation between 1999-2000 to 2009-2010, 63 million workers were added to the workforce out of which 70 percent is added in unorganized sector and rest into informal organized sector. This is linked to disproportionate increase in the contribution of service sector in economy from 41 percent of GDP in 1990-91 to 64.8 percent in 2012. However, the share of service is less than 30 percent. On the other hand in 2011-12 manufacturing contributed 16 percent to the GDP and its share in aggregate employment was close to 13 percent. (Yojana, Oct.2013). Therefore, inclusive growth is required to develop each and every sector of the economy. This terminology refers to the equitable allocation of resources with benefits incurred to every section of the society. It sets a direct relationship between macro and micro determinant of the economy and its growth. The achievement of the inclusive growth is possible with the help of the effective governmental policy and the potential people involve in the proper allocation of the resources. The Entrepreneurship, particularly in relation to small and micro-enterprises, is frequently seen as a key vehicle for employment creation (Folster, 2000), an essential means of enhancing the innovation dynamic in the local, regional and national economies (Robbins et al., 2000). In this way, entrepreneurial initiatives contribute to the process of adaptive remodelling and restructuring of the contemporary business world, providing a constant stream of learning experiences and consequently underpinning development of a more sustainable type (Videira, 2001, quotes in Franco, 2007).

Survey of Literature

Various literatures related to the entrepreneur potential, individual identity have been reviewed. Entrepreneurship clearly represents planned, intentional behavior (Bird, 1988; Katz & Gartner, 1988)

and thus seems amenable to research using formal models of intentions. Brazeal (1993b) shows that an organization may have a considerable supply of potential entrepreneurs even if they do not display any overt intentions to start a corporate venture. Her findings argue that situational perceptions may explain the gap between potential and intention (Brazeal, 1993a; Brazeal & Weaver, 1990).

Few research studies have measured entrepreneurial potential, though interest in pre-emergence entrepreneurial activity has recently grown (e.g., Gartner, Bird, & Starr, 1992). However, measures of entrepreneurial potential seem to remain wedded to various ad hoc profiles of personality and demographic characteristics with minimal predictive validity (e.g., Carsrud, Gaglio, & Kemochan, 1993). As Shaver and Scott (1991) note. Shapero (1981) argued that such potential characterized economically self-renewing communities and organizations. Jensen, 1998; Ryna, Sattler, & Lopez, 2000 found in their study that intelligence is not much attention of the academic discussion of entrepreneurship. It is the adult intelligence which is conceived in general term (“g”) wherein it is stable and not subject to significant improvement through training.

Hofsterde, et al. (2004) found out that the greatest influence on rates of entrepreneurship is structural economic and social conditions. Along with this he found the culture as an additional factor to affecting the entrepreneurship potential. Brockhaus and Horwitz (2004) identified both personality features, including achievement orientation and high locus of control, and environmental features such as access to role models, as important influences on entrepreneurial behaviour. Similarly, Baron (2007) identifies a range of factors, “individual-level”, “societal-level” and “interactive” as impacting on entrepreneurship, which he describes as a process rather than a stable state. Scott and Twomey (1988) found that the student whose parents are own business are more interested in starting a firm or become a self-employed than other who are not from the business class. Hout and Rosen (2000) and Holtz-Eakin (2000) found that parents who are from business background often act as the role models and provoke their children to become an entrepreneur.

Recent psychological and sociological approaches to entrepreneurship have stressed the importance of a multi-disciplinary nature of the individual, and many researchers have concentrated upon particular qualities or attitudes such as motivation, leadership ability, or social forces (Mcquaid, 2002). Rwigema and Venter (2004) found the following traits were commonly exhibited in an entrepreneur: commitment, self-reliance, tenacity, a need to achieve, opportunity drive, initiative, responsibility, problem solving abilities, and team building abilities. However, after undertaking a study based on interviewing business-people who had succeeded in an entrepreneurial role, Howorth, Tempest, and Coupland (2005) found it difficult to narrow down the qualities that make an entrepreneur.

Entrepreneurs are identified not only through their personality or characteristics, but also through what they do. It is therefore imperative to consider entrepreneurship as a form of behavior and not merely a collection of common characteristics (Mcquaid, 2002). Unlike the traditional business owner or manager, who is often obsessed with controlling resources, entrepreneurs are

strategically orientated and pursue opportunities (Mcquaid, 2002). Ma and Tan (2006) believe any attempt to determine the psychological profile of an entrepreneur is bound to fail because, for each of the traditional definitions of the entrepreneurial type, there are numerous counter examples that disprove the theory. Ma and Tan (2006) argued that the macro view of entrepreneurship is insufficient as environmental factors cannot be examined independently of psychological factors.

Drucker (as quoted in Mcquaid, 2002) argued that entrepreneurship is a form of behavior that can be learnt through practice of systematic innovation, which consists of a systematic analysis of opportunities, and a search for changes that may suggest innovation. This suggests that entrepreneurs include those who exhibit such behavior and systematically analyze and grasp opportunities arising from developments, therefore, building upon their experiential learning (Mcquaid, 2002).

Many tests have been formulated to understand and compute an individual's personality. The Keirsey Temperament Sorter (KTS) is one of these tests and is often used to draw a correlation between certain personality types and career options (Schwalbe, 2006). Psychological assessments within industry are commonly performed through the use personality assessment tools such as the Keirsey Temperament Sorter (Keirsey & Bates, 1998; Schwalbe, 2006). The Keirsey Temperament Sorter is a common indicator of an individual's temperament and has been used as a test for personality-organization fit and as a research tool (Markman & Baron, 2003). Borg and Shapiro (1996) noted that the MBTI was

widely used in research that investigated personality types, and that it is relatively easy to administer through a questionnaire. This research aimed to evaluate the effectiveness and usefulness of using personality types to identify potential ICT entrepreneurs, and the MBTI was therefore an appropriate instrument. A personality is made up of an individual's temperament and character. Temperament is a configuration of inclinations, while character is a configuration of habits (Keirsey & Bates, 1998).

The Keirsey Temperament Sorter, like the MBTI, measures eight personality type variables in four dimensions: extravert-introvert, sensing-intuition, thinking-feeling, and judgment-perception (Keirsey & Bates, 1998) summarized in Table 1. Although no person uses only one personality type within a dimension (e.g. sensing-intuition), "each person has a preference for one or the other and has developed that process more fully, and thus it has become dominant in his or her personality type" (Borg & Shapiro, 1996). The Keirsey Temperament Sorter requires an individual to select between 70 dichotomous (contrasting) words or phrases. The result is an indication of a person's personality type within the four dimensions; for example, if a person scores higher on Introvert (I) than Extrovert (E), and higher on Sensing (S), Thinking (T) and Judgment (J), they would be classified as an ISTJ personality type. Typically ICT professionals have been found to be either ISTJ or INTJ personality types, in other words they are logical, analytical, dependable, organized, and systematic as well as being inflexible, weak communicators, and resistant to change (Schwalbe, 2006).

Table 1: Person's Personality Type (Borg & Shapiro, 1996)

Attitude to Life (E/I)	
E: Extroversion The person's interest flows mainly to the outer world of actions, objects, and person.	I: Introversion The person's interest flows mainly to the inner world of concepts and ideas.
Method of Perception (S/N)	
S: Sensing The person prefers to perceive the immediate, real, practical fact of experience and life.	N: Intuition The person prefers to perceive the possibilities, relationships, and meanings of experiences.
Method of Judgment (T/F)	
T: Thinking The person prefers to make judgments and decisions objectively, impersonally, considering causes of events and where decisions may lead.	F: Feeling The person prefers to make judgments or decisions subjectively and personally, weighing values of choices and how they matter to others.
Lifestyle (J/P)	
J: Judgment The person prefers mostly to live in a decisive, planned, and orderly way, aiming to regulate and control events.	P: Perception The person prefers mostly to live in a spontaneous, flexible way, aiming to understand life and adapt to it.

Aim and Objectives of the Study: The aim of the paper is to cluster the respondents (commerce students) in high, medium and low entrepreneurial potential and other objectives are specified as follows:

- A) To find individual identity and entrepreneurial potential asymmetry among UG & PG students of Commerce students;
- B) To trace out individual identity and Entrepreneurial

- Potential of Boys and Girls students of commerce; and
- C) To explore the influence of socio-economic characteristics of respondents on Entrepreneurial Potential among commerce students.

Identified Variables

In this study four major factors have been used for finding out the individual identity and to the measurement of the Entrepreneurial

Potential of the respondents. These variables are Motivation, Capacity-Skill and Capacity-Networking/Partnering and Family Supports. Under the dimension of Motivation 12 statements have been used. The capacity- skill dimension consists 9 Statements/dimensions. The Capacity-networking/partnering includes 6 dimensions/ Statement. Finally, the family supports have been measured with 5 dimensions. The statements are tabulated in the following variables as follows:-

Table No. 2
Variables Identified in the study

Motivation				Capacity- Skill			Capacity- Networking/Partner ing		Support		
1	perceive opportunity	7	Hard Working	1	Assessment Power	7	HR Potential	1	Information hunger	1	Happiness
2	Growth orientation	8	Flexibility,	2	Development Capacity	8	Partnership Ability	2	Networking	2	Work Life Balance
3	creativity	9	Risk Tolerance	3	Delivery Power	9	Quality Conscious	3	Resource Networking	3	Family Supports
4	innovation	10	Open to Learning	4	Grasping			4	partnership	4	Communit y Activeness
5	Resourceful	11	Competitive	5	Economic Ability			5	Association		
6	Dynamic	12	Collaborative	6	Capital Control			6	Learning		

Hypothesizes of the Study

In this study four hypothesizes have been formulated to justify the objectives namely:

- There is no significant difference in Entrepreneurial Potential score among UG and PG Students.
- There is no gender inequality in terms of Entrepreneurial Potential;
- Socio economic factors have no significant impact on Entrepreneurial Potential; and
- Presence of heterogeneity in Entrepreneurial potential among commerce students.

Significance of the Study

Entrepreneurs engage all the resource of the production and fulfill the social demands and the needs. This entrepreneurial activity not only supports to the economy but also bring the sustainability in the economy development. Identification of the entrepreneurial potential of the individual in the earlier level will help in shaping their future and building up their motivation in a scientific way so that they could succeed in their business. On the other hand this study will help in enriching commerce students' to engage in business which ultimately to promote economic growth.

Research Design

This study is conducted in the students of Faculty of Commerce, BHU, Varanasi. Both Under Graduate and Post Graduate boys and

girls students have been considered in the ratio of 2:1. Total 210 questionnaires have been filled up out of which 140 were from UG students and 70 were from PG students. In the UG respondents 70 were boys and 70 were girls' students. Where as in the PG respondents 35 were boys and 35 were girls. For the purpose of measuring entrepreneurial potential Motivation, Capacity and Support factors have been identified and structured questionnaire is prepared in which 12 questions/statements were from motivation, 9 questions were from Capacity -Skill, 6 questions were from Capacity –Networking/Partnering and 5 questions were from family support. Along with research statement 8 were demographic variables. The scaling technique of **Don Macke and Deb Markley (June, 2003)** have been applied to measure the entrepreneurial potential. In the scaling, respondents are asked to score 1 to 10, where 10 indicate strong agreement with the statement and 1 indicates little or no agreement with the statement. Each score of the question were multiplied by factor score of 0.25 (except first two questions of motivation were multiplied by factor score 1) and then total score of each factors was calculated.

Analyses and Discussions

For understanding the structure of demographic profile of respondents', descriptive statistics have been applied. Further, understanding the significance difference among Boys/ Girls, and UG/ PG students, t- test has been applied. To explore the influence of socio-economic factors on individual identity and entrepreneurial potential, one way ANOVA has been applied.

Finally, for clustering the respondents on the basis of high, medium and low entrepreneurial potential, K-Means cluster analysis have been conducted.

Demographic Profile of Respondents

The demographic profile of the respondents has been shown in the

table-3. In the demographic analysis the Class, Gender, family occupation, family income and parents' education have been presented in the form of percentage

Table No.3
Demographic Profile of the Respondents selected in the study

Class	No.	%	Family occupation	No	%	Father Education	No.	%
Under Graduate	140	66.7	Agriculture	24	11.40	Illiterate	3	1.40
Post - Graduate	70	33.3	Business Class	88	41.90	Primary	9	4.30
Total	210	100	Service Class	98	46.70	Secondary	11	5.20
			Total	210	100	High School	26	12.40
Gender	No	%	Family income (in Rs.)	No	%	Intermediate	42	20.00
Male	105	50	<50,000	41	19.50	U.G	61	29.00
Female	105	50	50,000-1,00,000	46	21.90	P.G	58	27.60
Total	210	100	1,00,000-2,00,000	36	17.10	Total	210	100.00
			2,00,000-3,00,000	21	10.00			
			3,00,000-5,00,000	41	19.50			
			>5,00,000	25	11.90			
			Total	210	100			

The table No.3 shows the segregation of the respondents on basis of different demographic variables. The table shows that 50 % respondents were male and 50% respondents were female out of this 66.7% were from Under Graduate (UG) and 33.30 % were from Post Graduate (PG) which shows the ratio of 2:1 of UG and PG students. The table also projects the family occupation whereas 11.40% respondents were from agricultural occupation background, 41.90% were from the business class and 46.70% were from the service class. With regard to parent education the table shows that 1.40% parents of the respondents were illiterate, 4.3% were of primary level education, 5.2% were of secondary level, 12.40% were of high school, 20% were of intermediate level, 29 % were of PG and 27.60% were from PG level. The table shows

that 10% respondents were of Rs. 2, 00,000-3,00,000 annual family income. Only 11.90% respondents were of > Rs.5, 00,000 annual family income group and 17.10% respondents were of Rs.1,00,000- 2,00,000 annual family income. The highest respondents were of Rs.50, 000- 1, 00 000 annual family income group in this study.

Descriptive Statistics of Composite Score

The descriptive statistics (mainly mean and, SD, and CV) have been applied to find out the average, and variation of the score of Motivation, Capacity- Skill, Capacity-Networking, Family Support and Total Score of the respondents which shows the comparative consistency of data.

Table No. 4-Descriptive Statistics of Composite Score

Name of Score	Mean	S.D	Coefficient of Variation
Motivation	30.14	6.52	.216
Capacity-Skills	14.16	3.03	.213
Capacity-Networking/Partnering	8.98	2.48	.276
Support	8.55	2.00	.233
Total Score	61.94	11.81	.190

Entrepreneurial Potential among Boys and Girls of Commerce Students

The total score and its descriptive statistics of Entrepreneurial Potential of Boys and Girls have been calculated and to understand

their significance difference, the independent sample t test is applied.

Table No. 5-Score of Entrepreneur Potential among Boys and Girls Commerce Students

S N	Factors	level	Descriptive statistics		Test Value			Decisions
			Boys	Girls	Value	d.f	p-value	
1	Motivation	Total score of motivation	30.14±6.72	30.15±6.35	0.016	208	.987	NS
2	Capacity-Skills	Total score of capacity skill	13.94±3.09	14.39±2.97	1.088	208	.443	NS
3	Capacity-Networking/Partnering	Total score of networking	08.51±2.37	09.45±2.50	2.791	208	.987	NS
4	Support	Total score of support	8.43±2.27	08.75±1.68	1.501	191.7	.001	S
5	Total Score	Total score	61.08±11.8	62.80±11.73	1.053	208	0.581	NS

The above table (No.5) shows the entrepreneur potential score of boys and girls on selected dimensions i.e. Motivation, Capacity-Skills, Capacity -Networking and Family Support. Regarding Motivation, independent sample t- test shows that the calculated value of t (0.016) for 208 degree of freedom is insignificant at 0.05 level ($P > 0.05$). Therefore, there is no significant difference between boys and girls in the motivation. In the case of the capacity skill the calculated value t (1.088) for 208 degree of freedom is found insignificant at 0.05 level ($p > 0.05$). Therefore, there is no significant difference between boys and girls on the basis of capacity skill.

In the case of Networking/Partnering Capacity the t value (2.791)

for 208 degree of freedom is found insignificant at 0.05 level. In the case of the Support the t- value (1.501) for 191.76 degree of freedom at 0.05 percent is found significant ($P < 0.05$). The total score of the all these dimension is found insignificant as the t value (1.053) for the 208 degree of freedom at 0.05 percent level. This shows that on the basis of all these three dimensions there is no significant difference between boys and girls

Entrepreneurial Potential among UG and PG Students

The score of Motivation, Capacity skill, Capacity networking and Support have been find out and independent sample t- test have been applied for finding out the significance difference between two groups of same sample.

Table No. 6
Score of Entrepreneur Potential of UG and PG Students

S. No.	Factors	Level	Descriptive statistics		Test Value			Decisions
			UG	PG	Value	d.f	p-value	
1	Motivation	Total score of motivation	39.72± 6.06	30.99±7.33	1.335	208	0.05	S
2	Capacity-Skills	Total score of capacity skill	13.94±3.06	14.60±2.94	1.485	208	0.589	NS
3	Capacity-Networking/Partnering	Total score of networking	8.98±2.20	9.00±2.97	0.054	208	0.001	S
4	Support	Total score of support	8.41±1.91	8.81±2.16	1.371	124.197	0.233	NS
5	Total Score	Total score	61.12±11.46	8.81±2.16	1.429	208	0.393	NS

S:Significant; NS-Not Significant

The table No. 6 describes the entrepreneur potential score of the Under Graduate (UG) and Post-Graduate (PG) students with selected dimensions i.e. Motivation, Capacity -Skill, Capacity-Networking and Family Support. Independent t- test has been applied for testing the significance difference between UG & PG students in Faculty of Commerce, BHU. Regarding, Motivation the t value 0.13335 for the degree of freedom 208 is found significant at 5% level of significance. In the case of Capacity skill

the t value (1.485) for 208 degree of freedom, is found insignificant at 5% level of significance ($p > 0.05$). However, in the case of the Capacity Networking the t value (0.054) is found significant ($p < 0.05$) for 208 degree of freedom at 5% level of significance. This depicts that on the basis of the Networking/Partnering Capacity UG and PG students have significant difference. In the case of Support the t value (1.371) is found insignificant ($p > 0.05$) for the 124.19 degree of freedom and the 5% level of significant.

The total score of three dimensions are found insignificant. The t value (1.429) of total score of three dimensions for 208 degree of freedom is found insignificant at 5% level of significance. This shows that the UG & PG students have no significance difference on overall score basis.

Influence of Socio-economic factors (Family Occupation,

Parent's Education and income) on Entrepreneurial Potential

The composite score of the three demographic variables viz; Family occupation, Parents Education and Income have been found out and to understand its influence on the Motivation, Capacity- Skill, Capacity- Networking and Family Support, one way ANOVA have been applied.

Table No. 7

Distribution of Total Perception Score of Motivation, Capacity and Support with Select Demographic Indicators.

S.N	Level	Family Occupation	Descriptive			Test Value		Decision
			No.	%	Mean \pm SD	F Value	P Value	
1	Total Score of motivation	Agriculture	24	11.42	27.583 \pm 7.356	2.272	0.1016	NS
		Business	88	41.90	30.758 \pm 6.012			
		Service	98	46.66	30.227 \pm 6.675			
		Total	210	100	30.147\pm6.527			
2	Total score of capacity skill	Agriculture	24	11.42	13.451 \pm 3.578	0.747	0.475	NS
		Business	88	41.90	14.23 \pm 2.594			
		Service	98	46.66	14.286 \pm 3.263			
		total	210	100	14.683\pm3.036			
3	Total score of networking	Agriculture	24	11.42	8.731 \pm 2.583	0.119	0.888	NS
		Business	88	41.90	8.968 \pm 2.158			
		Service	98	46.66	9.053 \pm 2.753			
		total	210	100	8.986\pm2.481			
4	Total score of support	Agriculture	24	11.42	7.927 \pm 2.515	1.752	0.176	NS
		Business	88	41.90	8.485 \pm 1.821			
		Service	98	46.66	8.760 \pm 2.013			
		total	210	100	8.550\pm2.006			
5	Total Score of motivation	Parent Education				0.567	0.757	NS
		illiterate	3	1.42	31.333 \pm 9.291			
		primary	9	4.28	32.861 \pm 4.538			
		secondary	11	5.23	27.613 \pm 5.315			
		High school	26	12.38	30.528 \pm 7.968			
		intermediate	42	20.00	30.011 \pm 5.734			
		UG	61	29.04	30.0287 \pm 5.937			
		PG	58	27.61	30.198 \pm 7.358			
		total	210	100	30.147\pm6.527			
6	Total score of capacity skill	Illiterate	3	1.42	14.750 \pm 2.783	1.520	0.173	NS
		Primary	9	4.28	14.361 \pm 2.058			
		Secondary	11	5.23	12.568 \pm 4.034			
		High School	26	12.38	13.451 \pm 3.197			
		Intermediate	42	20	13.967 \pm 2.607			
		UG	61	29.04	14.069 \pm 3.644			
		PG	58	27.61	14.975 \pm 3.081			
		total	210	100	14.168\pm3.036			
7	Total score of networking	Illiterate	3	1.42	9.961 \pm 2.961	0.826	0.551	NS
		Primary	9	4.28	8.666 \pm 1.620			
		Secondary	11	5.23	8.000 \pm 3.016			
		High School	26	12.38	8.653 \pm 2.657			
		Intermediate	42	20	8.994 \pm 2.320			
		UG	61	29.04	8.856 \pm 2.375			
		PG	58	27.61	9.495 \pm 2.617			
		total	210	100	8.986\pm2.481			
8	Total score of support	illiterate	3	1.42	9.083 \pm 4.41	0.888	0.504	NS
		primary	9	4.28	8.222 \pm 1.522			
		secondary	11	5.23	8.181 \pm 1.628			
		High school	26	12.38	8.644 \pm 2.362			
		intermediate	42	20.00	8.142 \pm 2.096			
		UG	61	29.04	8.471 \pm 1.956			
		PG	58	27.61	8.978 \pm 1.808			
		total	210	100	8.550\pm2.006			
9	Total Score of motivation	Income				0.454	0.810	NS
		<50000	41	19.52	29.573 \pm 7.654			
		50000-100000	46	21.90	30.989 \pm 6.511			
		100000-200000	36	17.14	30.763 \pm 6.004			
		200000-300000	21	10.00	29.464 \pm 6.298			
		300000-500000	41	19.52	29.365 \pm 6.177			
		>500000	25	11.90	30.510 \pm 6.364			
		Total	210	100	30.147\pm6.527			

10	Total score of capacity-skill	<50000	41	19.52	13.341±3.202	2.714	0.021	S
		50000-100000	46	21.90	141.326±3.274			
		100000-200000	36	17.14	14.118±2.904			
		200000-300000	21	10.00	13.016±3.140			
		300000-500000	41	19.52	14.524±2.332			
		>500000	25	11.90	15.690±2.916			
		Total	210	100	14.168±3.036			
11	Total score of networking	<50000	41	19.52	8.841±2.828	0.796	0.553	NS
		50000-100000	46	21.90	8.956±2.558			
		100000-200000	36	17.14	9.111±2.172			
		200000-300000	21	10.00	8.190±2.440			
		300000-500000	41	19.52	9.091±2.617			
		>500000	25	11.90	9.600±1.925			
		Total	210	100	8.986±2.481			
12	Total score of support	<50000	41	19.52	8.737±2.323	0.668	0.648	NS
		50000-100000	46	21.90	8.250±2.189			
		100000-200000	36	17.14	8.368±1.751			
		200000-300000	21	10.00	8.927±2.225			
		300000-500000	41	19.52	8.750±1.756			
		>500000	25	11.90	8.940±1.727			
		Total	210	100	8.550±2.006			

Regarding Motivation, the result of the one way ANOVA is given in the table: 7 shows that the calculated value of F (2.272) is found insignificant at 0.05 ($P > 0.05$). This shows that family occupation have not impact on the motivation of the entrepreneur. The F value (0.747) of the total Capacity- Skill is found insignificant at 0.05 level of significance ($P > 0.05$). This shows that the family occupation has no impact on the entrepreneur capacity skill. The F value of total Capacity- Networking is found insignificant at the 5% level of significance ($p > 0.05$). This shows that the family occupation has no significant impact on the entrepreneurial capacity networking.

The F value (1.752) of total support score is found insignificant at 5% level of significance ($p > 0.05$). Therefore, insignificant relationship exists between mean score of total support and different group of family occupation. The F value (0.567) of total score of the motivation regarding the parental education is found insignificant at 5% level of significance ($P > 0.05$). Therefore, parental education has no significant impact on the motivation of the respondents.

Further, the calculated F value (0.454) of the total motivation score regarding annual parental income of the respondent is found insignificant at 5% level of significance ($P > 0.05$). This shows that respondent family income has no impact on entrepreneurial motivation. In the case of the Capacity-Skill score the F value (2.714) is found significant regarding the parental income. Therefore significant relationships exist between the mean score of total capacity skill and six groups of family income.

K-Means Cluster Analysis

This method of clustering is very different from the hierarchical clustering and Ward method, which are applied when there is no prior knowledge of how many clusters there may be. In general, the *k*-means method produce the exact *k* different clusters demanded of greatest possible distinction. Since the study have been used the scale of *Macke et al (2003)* scale of heterogeneity i.e., identification high, medium and low entrepreneurial potential, K means cluster analysis was performed and the result showed the presence of three clusters respondents having different characteristic features of entrepreneurial potential.

Table: 8-Cluster Status of Entrepreneurial Potential among Commerce Students

Scale of Entrepreneurial Potential	Cluster-I	Cluster-II	Cluster-III
	High EPS	Medium EPS	Low EPS
	62 (29.52%)	80 (38%)	68 (32.38%)
A. Total Score of Motivation (TSM)	36.94	30.65	23.30
B. Total Score of Capacity-Skills (TSC-S)	17.13	14.32	11.27
C. Total Score of Capacity-Networking/Partnering (TSC-N/P)	10.88	9.38	6.81
D. Total Score of Community & Family Support (TSCFS)	10.28	8.47	7.07
E. Total Score of A+B+C+D (Grand Score)	75.32	63.22	48.17

The first group (cluster) of respondents had high motivation, capacity, community and family support scores and they are designated as “High EPS Group”. The second cluster comprised of respondents who had medium level of **Grand Score** due to medium levels of TSM, TSC-S, TSC-N/P, and TSCFS. Therefore, this cluster was named as “Medium EPS”. The third cluster comprised of employees who had the lowest level of Grand Score due to very low levels of TSM, TSC-S, TSC-N/P, and TSCFS. The third group was suitably named as “Low EPS Group”.

Conclusion

The analysis shows that boys and girls have no significant difference in the entrepreneurial potential regarding motivation, capacity-skill and capacity-networking. The significant difference among boys and girls exists only in the case of Family Support Score. The analysis shows the UG and PG student have same entrepreneurial potential regarding the capacity-skill and support. In the case of Motivation and Capacity-Networking there is significant difference have been observed between UG and PG students. The three demographic variables viz; family occupation, parental education and income did not show impact on the student's entrepreneurial motivation, capacity skill, capacity networking and support. The only one demographic variable i.e., family income has an impact on the student's capacity-skill. The cluster analysis traced out three groups of the respondents according to the entrepreneurial potential. 29.52% students (62 students) are found High Entrepreneurial Potential whereas 38% students (80 students) are found Medium Entrepreneurial Potential and 32.28% students (68 students) are found Low level Entrepreneurial Potential.

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