STUDY THE EFFECT OF ENTREPRENEURSHIP EDUCATION IN MANAGEMENT STUDIES IN ENTREPRENEUR DEVELOPMENT USING DIFFERENT STATISTICAL TOOLS

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Abstract

The goal of this study is to examine the function of entrepreneurial education in management studies and entrepreneurial intention from the perspective of the theory of planned behaviour in entrepreneur development. Based on the literature addressing the significance of entrepreneurship education in the advancement of social and economic conditions worldwide, a conceptual model is created. In order to explore the relationship between demographic characteristics, risk-taking capacity, innovativeness, and identity and entrepreneurial intention, a variety of hypotheses are proposed. The practical and theoretical consequences of these findings for entrepreneurship education are then examined using different statistical tools.

1. **Introduction**

The Indian economy is in the beginning of an entrepreneurial adventure, and India is growing as the world's most interesting entrepreneurial society. Entrepreneurial education (EE) in India is still in its development. EE is offered in a variety of institutions as a discipline or as a component of a larger curriculum. The question is whether these attempts would be sufficient to bring entrepreneurship to the level that India requires (Sharmaa, 2019). The culture and importance of experiential learning instil the Education and skills in the young people, strengthening the entrepreneurial environment by assisting them on their promoting and managing.

Young entrepreneurs' entrepreneurial endeavours in cutting-edge technology fields will be linked to government programmes like the Atal Innovation Mission and the Self Employment Skill Throughput scheme, and the creation of new incubators will be motivated (Ministry of Skill Development and Entrepreneurship, 2019). Without a doubt, EE strengthens the entrepreneurship culture by fostering the ideas of entrepreneurs and producing future leaders with the entrepreneurial abilities necessary to address difficult problems on a systemic level and support the entrepreneurial ecosystem.

Institutions of higher learning should emphasise intellectual capabilities and innovation (Celuch et al., 2017). A student-focused and experience-based learning environment has been developed as part of academic courses and curriculum as a result of advancements in entrepreneurship education (Byrne et al., 2014).

Business models and action plans are just a couple of the learning exercises used in entrepreneurship classes to promote the creation of new businesses (Schaper & Casimir, 2007). This makes it possible for students taking entrepreneurship classes to learn by developing business

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strategies that include case studies. We drew inspiration for this study from Byabashaija and Katono's (2011) study, which discovered that a 4-month entrepreneurship course can result in a change in an individual's attitude toward venture formation. In educational programmes, an entrepreneurial approach to teaching is being emphasised more and more; this is different from the traditional technique of classroom instruction (Jones & Iredale, 2014). This greater emphasis on the benefits of entrepreneurship has been accompanied by a rise in academics' curiosity about how to foster an innovation mindset.

It has only recently been clear how important entrepreneurship is to the macro economy, as research has shown that small businesses are among the main forces behind economic growth and create more jobs than larger corporations. The majority of yearly net new jobs are produced by the creation of about 4 million new firms each year (Haltiwanger, Jarmin, and Miranda 2009; Tether 2000; Wennekers and Thurik 1999).

2. Objectives

- ✓ Study the effect of entrepreneurship education in management studies for entrepreneur development
- ✓ To observe the influence of entrepreneurship education in management studies for student's innovation.

3. Statistical tools used to analysis the effect of entrepreneurship education in management studies for student's innovation and entrepreneur development

- a. Principal component analysis
- b. Scatter matrix plot analysis
- c. Paretto chart based analysis
- d. Q-Q plot based analysis

(a) Principal component analysis

With a high number of dimensions or features per observation, principal component analysis (PCA) is a common way to analyse huge datasets, improving relevant data while retaining the most information, and facilitating the presentation of multidimensional data. Formally, PCA is a statistical method for lowering a dataset's dimension. To do this, the data were converted linearly into a new coordinate system, where (most) of the variance in the data can be expressed with smaller blocks than the preliminary data.

The preliminary survey where conducted for the Assam university MBA students regards the student's innovation and ideas about the new firms and small scale industries after and before learning the entrepreneur education. Seven different factors includes innovative ideas, entrepreneur education, market fluctuation, risk taking, social, labour, and customer satisfaction factors they are labor social, market fluctuation, risk taking, innovative ideas, education, customer statisfaction were given as a questionnaire to the students and to the developing entrepreneurs.

The factors understand how the variables of the input data set are varying from the mean with respect to each other, or in other words, to see if there is any relationship between them. The impact

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of each of the initial variables on the key elements Table 1 provides a summary of these data. Figure 1(b) and (c) is observe that each principal component has four variables on the fringe that do not appear to be a part of the central number of variables that surrounds the middle of each principal component. Whereas social was the characteristic that was not in the cluster, education, economic, and new ideas were all grouped together. This demonstrates how entrepreneur studies have an impact.

Steps involved in the principal component analysis

1. Make the range of continuous initial variables standardised
2. To find correlations, calculate the covariance matrix.
3. To determine the primary components, compute the eigenvectors and eigenvalues of the covariance matrix.
4. To select which primary components to keep, create a feature vector.
5. Recast the data using the axes of the principle components

The principal component analysis results were shown in the figure Table 1.

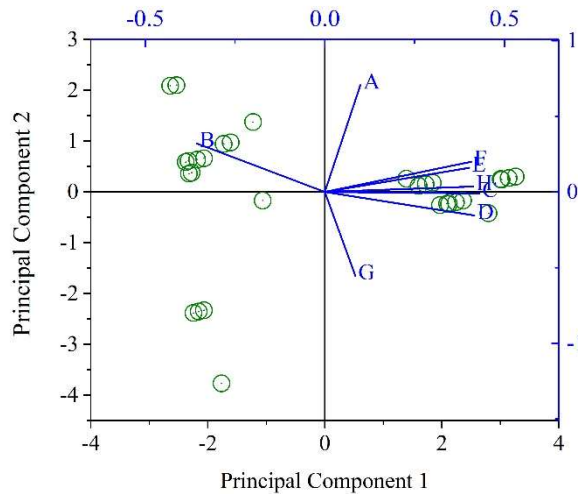| Variables	Coefficients of PC1	Coefficients of PC2
A (Labour)	0.09882	0.70599
B (social)	-0.35677	-0.00981
C (Market fluctuation)	0.43022	-0.15504
D (Risk taking)	0.41615	0.15981
E (Innovative ideas)	0.40141	0.19962
F (education)	0.08466	-0.55489
G (Customer statisfaction)	0.41298	0.03614

Figure 1 Principal Component analysis
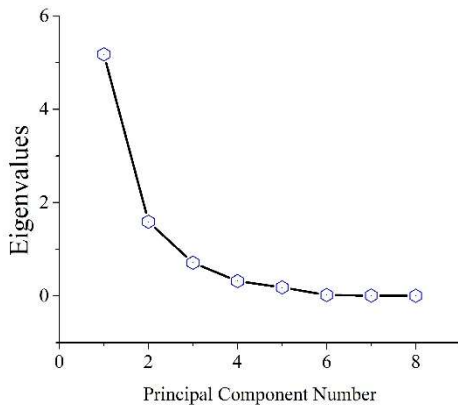
(a) Scree plot
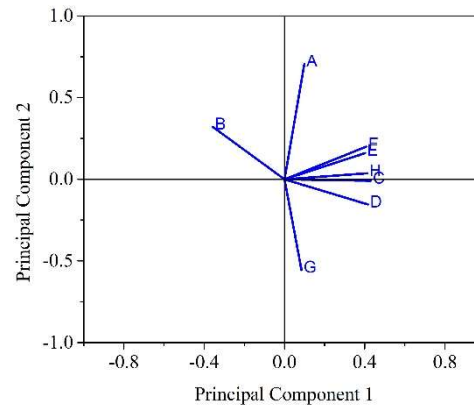
(b) Loading plot

Bi plot
(c) Principal component analysis

(b) Scatter matrix plot

The purpose of scatter matrix plot is to check the pairwise relation between the variables. In Figure 2, the scatter plot matrix is shown. This matrix aims to provide some insight into how education and entrepreneur growth are related. This matrix demonstrates the positive correlation between education and entrepreneurship development since rising educational standards and rising entrepreneurship standards create a positive association between the two variables. But the other variables society, risk taking are showing the decreasing trend with entrepreneur development. This shows the necessity of entrepreneur development. This is a pairwise scatterplot matrix with no diagonal entries (Figure 2). Even though this is not a true depiction of the entire attribute space, it frequently offers helpful information because pairwise dependencies are typically of most relevance.
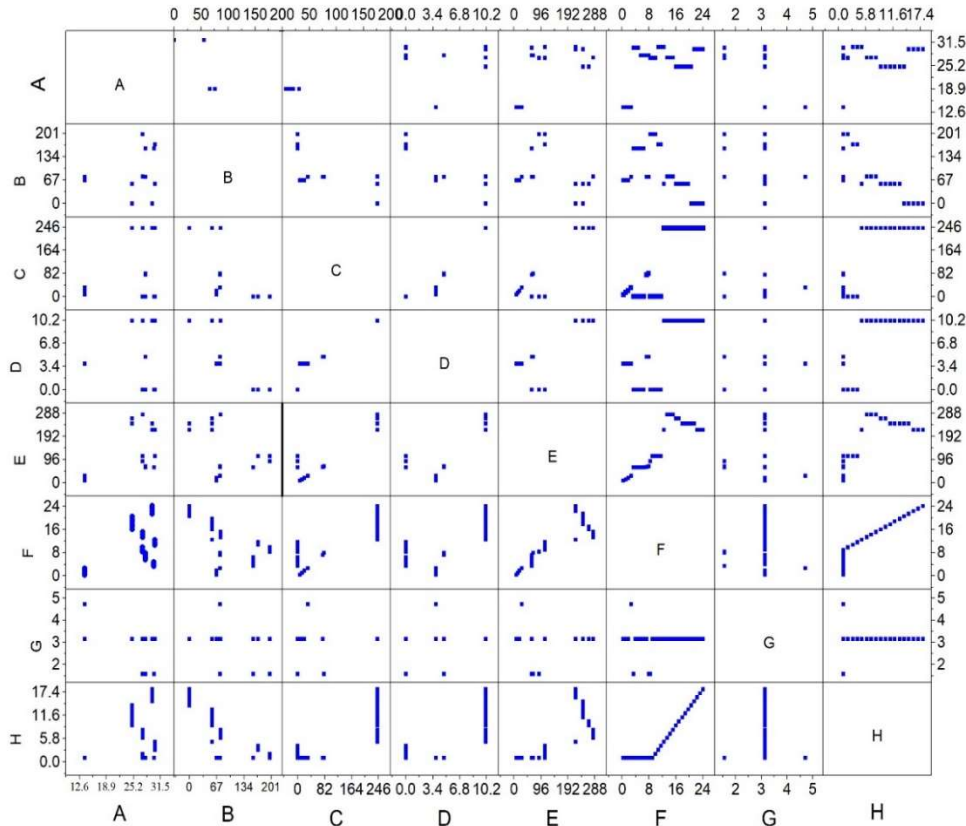
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Figure 2 : Scalar matrix plot

(c) Paretto chart based analysis

A Pareto chart is a form of graph with both bars and a line graph, where the bars reflect individual values in descending order and the line the cumulative total. Figure 4 shows the paretto chart based analysis. The frequency of different factors that influencing the entrepreneur development is shown on the left vertical axis. The cumulative percentage of all students who create new businesses through innovation is represented on the right vertical axis. The cumulative function is a concave function because the values are arranged in decreasing order. In this the education value is significant when compare to the other variables.
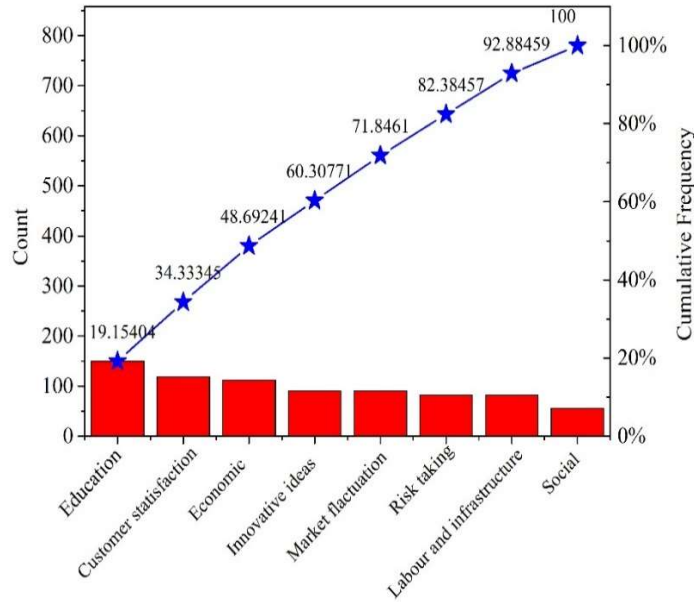
**Figure 3 : Paretto chart based analysis**

(d) Q-Q plot based analysis

The Q-Q plot, also known as the quantile-quantile plot, is a visual representation of data that can be used to determine if a collection of data is likely to have originated from a theoretical distribution like the Normal or exponential. When two sets of quantiles are plotted against one another, the result is a scatterplot known as a Q-Q plot. Quantiles of two probability distributions are plotted against one another in Q-Q (quantile-quantile) plots, which are extremely important in statistics for graphically analysing and comparing probability distributions. The Q-Q plot's points will flawlessly lie on the straight line y = x if the two distributions we are comparing are exactly comparable. The points should form a relatively straight line if both sets of quantiles were drawn from the same distribution. Here is an illustration of a Normal Q-Q plot where the quantiles for both sets are actually drawn from normal distributions.

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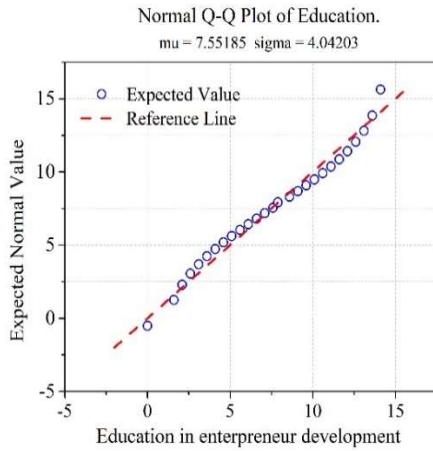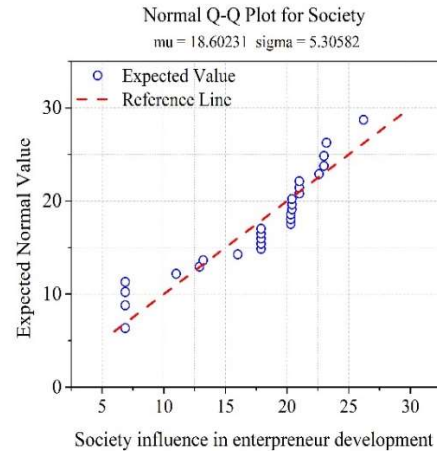
(a)   (b)
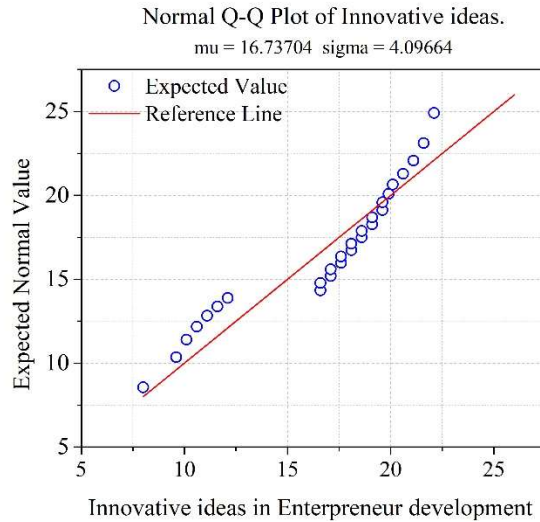
(c)

Figure 4 Q-Q plot based analysis

4 Conclusion

This article has some theoretical and practical value, but it also has several flaws that call for additional research. The main drawback is that students made up the majority of the survey respondents, which may restrict how broadly the results can be applied. Students's entrepreneurial orientation is important for creating and putting into practise better programmes for budding entrepreneurs, but, since the paper's main focus is on entrepreneurship education. In order to determine how entrepreneurship education can improve the capacity to launch new business ventures, it would have been preferable to examine students' pre- and post-entrepreneurial aspirations.

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Principal component analysis shows the central set of variables surrounds each primary component's centre. Education, economics, and new ideas were all clustered together; society, on the other hand, was not in the cluster. This exemplifies the influence of entrepreneur studies.

Scalar matrix illustrates how education and entrepreneurship development are positively correlated, as rising educational standards and rising entrepreneurial standards result in a positive connection between the two variables.

In paretto chart based analysis shows the maximum value in education and social variable shows the least value, this shows the influence of entrepreneur education in

Q-Q plot analysis, the entrepreneur education shows the linear response and falls over the reference line. Society shows the non-linear response in the entrepreneur development this shows the need of entrepreneur education in management studies.

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