

## EXPLORING AND PREDICTING THE ANTECEDENTS OF ENTREPRENEURIAL INTENTION OF UNIVERSITY STUDENTS IN PUNJAB

Prabhjot Kaur\* Manjit Singh\*\* Kanwaljeet Singh# Rajdeep Singh<sup>Φ</sup>

### Abstract

*Entrepreneurial intention is a conscious state of mind that precedes action and guides career decision-making. It plays a pivotal role in an individual's decision to set up a new business. In order to foster the entrepreneurial intentions of the youth an examination of their entrepreneurial intentions should be done. The aim of this paper is to examine the entrepreneurial intentions among university students studying in the public universities of Punjab. Based on the Theory of Planned Behavior (TPB), a tailor-made entrepreneurship intention instrument is developed and used to measure the entrepreneurial intention of a sample of 300 students from public universities in Punjab. Structural Equation Modeling was used to study the relative impact of identified factors on entrepreneurial intention. The findings revealed that attitude towards the behavior; perceived behavioral control and entrepreneurial education had a significant impact on the entrepreneurial intention. The present study contributes to body of knowledge of entrepreneurial intention by extending theory of planned behavior model and incorporating one of the most valued motivational determinants namely entrepreneurial education.*

**Keywords:** Entrepreneurship; Entrepreneurial intentions; Structural Equation Modeling; Theory of Planned Behavior.

### 1. Introduction

Entrepreneurship, in the present scenario, is the most important driver of enhancing economic growth and thus promoting competition, creating more jobs and advancing social interests (European Commission, 2003). Therefore, persistent efforts are being made by the policy makers all over the world to promote entrepreneurial activities within

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\* Ex. Assistant Professor, Khalsa College for Women, Ludhiana Email: prabhjotkaurk255@gmail.com

\*\* Professor, University School of Applied Management, Punjabi University, Patiala, Email : smanjitt@gmail.com

# Assistant Professor, Shri Aurobindo College of Commerce and Management, Ludhiana Email: kanwaljeetsingh.saccm@gmail.com

<sup>Φ</sup> Research Scholar, University School of Applied Management, Punjabi University, Patiala, Email : rajdeep.srcc@gmail.com

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their respective countries. There have been a number of studies in this area (eg. Krueger et al. (2000); Shapero and Sokol's (1982); Learned (1992); Naffziger et al. (1994); Segal et al (2005)). However, in the prior studies in this area there are very limited studies that have actually laid emphasis on identifying the antecedents of entrepreneurial intentions of university students and predicting the relative importance of these antecedents. Moreover a majority of these studies have been limited to predicting entrepreneurial intentions only in the developed countries (Jones et al. (2008); Schwalb et al. (1988); Ozaralli and Rivenburgh (2016); Westhead and Soleswik (2015)).

Therefore, taking into account the vital role played by entrepreneurship in fostering economic growth and creating healthy competition, this study aims to delve deeper into identifying the important antecedents of entrepreneurial intentions and then finally predicting entrepreneurial intentions of the students of public universities in Punjab. This study will act as a springboard for all the future studies in this area that will be conducted in a developing country. The findings of the study will be relevant for academicians, researchers and policy makers as it will give an insight into the psychology of prospective entrepreneurs and thus take actions to nurture and promote entrepreneurship in Punjab as well as other states in India.

The second section of the paper covers the theoretical background of the study, followed by the proposed conceptual model and hypothesis in the third section. The fourth section discussed the need of the study followed by research methodology in the fifth section. Research methodology section is followed by the data analysis, results and discussions section. Finally conclusion and implications comprises the seventh section.

### **2. Theoretical Background**

This section that reviews the contribution of the previous studies is classified into three sections: entrepreneurial intentions; theory of reasoned action and theory of planned behavior.

#### **2.1 Entrepreneurial Intentions**

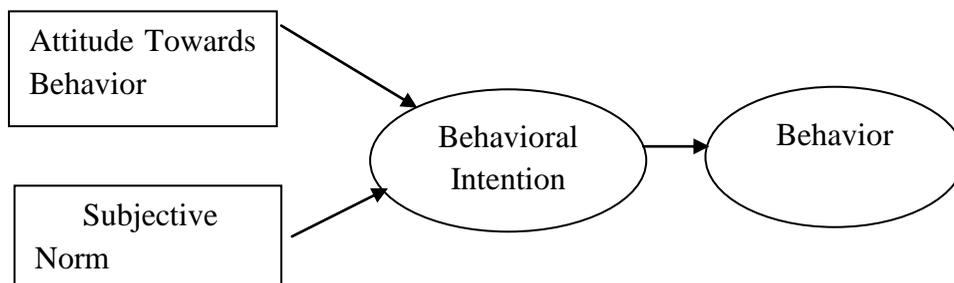
The models of entrepreneurial intention are based on the assumption that behavioral intention precedes actual entrepreneurial behavior (Linan 2008). Therefore a decision of starting a new business is preceded by an entrepreneurial intention to do so. According to Bird (1988) Entrepreneurial Intention (EI) is a cognizant state of mind that directs an individual's focus towards a specific goal or the means of attaining it. In our study, entrepreneurial intention refers to the intention of a university student to start his/her new business. According to Fishbein and Ajzen (1975) an individual intention towards a

particular behavior is the most direct predictor of individual's actual behavior. Ajzen (1991) described it as a tool that measures the degree of motivation of an individual to perform a particular behavior. The stronger the intention to undertake a particular behavior, the higher is the probability of actually undertaking that behavior. Krueger *et al.* (2000) took it as a base and explained that undertaking entrepreneurship as a career option is a planned behavior that has been built upon an individual's intention to do so.

## 2.2 Theory of Reasoned Action

Fishbein and Ajzen (1975) held that a system of beliefs, attitudes and intentions precede the actual behavior of an individual. Relying on this work Ajzen and Fishbein (1980) came out with Theory of Reasoned Action (TRA) that proposed that an individual's perception about the consequences of a particular behavioral action would influence the individual's attitude towards that behavioral action. The respective nature of the attitude developed would influence the individual's intentions to perform that behavior and the relative strength of the individual's intentions would impact the actual behavior. Apart from the attitude the TRA proposes that subjective norms also influence the individual's intentions to perform an action. Subjective norm refers to the opinion of the important individual's (family, friends and peers) in an individual's life about the behavioral action (Fishbein and Ajzen 1975). Such opinion of the friends and family members will also impact the individual's behavioral intentions. The applicability of TRA has been validated by various researches in diverse fields (Hale, Householder & Greene 2002). However the theory has some limitations. Firstly the applicability of subjective norms has been found to be weak in certain situations (Davis, FD, Bagozzi & Warshaw 1989). Secondly the intentions of an individual may vary with time and may be influenced by some unrelated events which have not been accounted for (Sheppard, Hartwick & Warshaw 1988). An extension of Theory of Reasoned Action was introduced that also take into account the effects of perceived behavioral control on intentions. This extension of TRA came to be known as Theory of Planned Behavior (TPB) (Ajzen 1985; 1991).

**Figure 1: Theory of Reasoned Action (Ajzen and Fishbein 1980)**

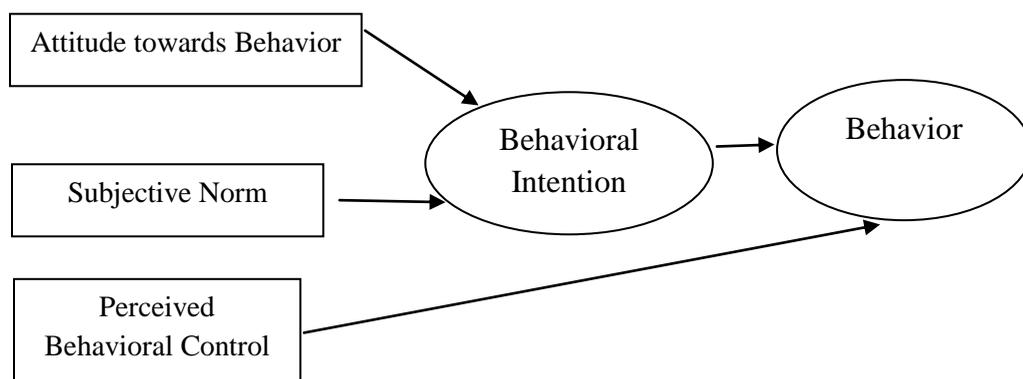


### 2.3. Theory of Planned Behavior

In order to address the above mentioned limitations of Theory of Reasoned Action(TRA), Ajzen (1985) introduced the Theory of Planned Behavior as an extension of the TRA model. Like TRA the TPB also is based on the assumption that an individual’s behavioral intentions guide the actual behavioral actions of the individuals. The Theory of Planned Behavior (TPB) take into account the two antecedents of intentions given in the TRA model, i.e, attitude towards the behavior and subjective norms. In addition one more antecedent of intention is introduced in the form of perceived behavioral control. According to (Bandura, Adams & Beyer 1977; Bandura, Adams, Hardy & Howells 1980) an individual’s behavioral intentions are dependent upon one’s ability and confidence to perform that action. The additional antecedent of intentions in this case, i.e, the perceived behavioral control is defined as one’s beliefs and confidence regarding the essentials (such as time, skills, funds, etc. ) required to perform a particular behavioral action.

Theory of Planned behavior has been widely applied in diverse fields. The theory has found application in varied contexts such as intentions for condom use (Reinecke, Schmidt & Ajzen 1996). Paiselry and Sparks (1998) applied this model to predict the intentions of individuals to consume low-fat food products. Norman, Conner, Bell (1999) used this model to predict the intentions of individuals to quit smoking. However, Mathieson, Peacock and Chin (2001) has alarmed the researchers regarding unthoughtful applicability of TPB in different contexts. They advocate the customization of instruments of TPB as per the context in which it is to be used.

**Figure 2: Theory of Planned Behavior (Ajzen 1985)**



A brief review of literature that deals with entrepreneurial intentions (particularly of university students) has been shown in the table 1 that follows.

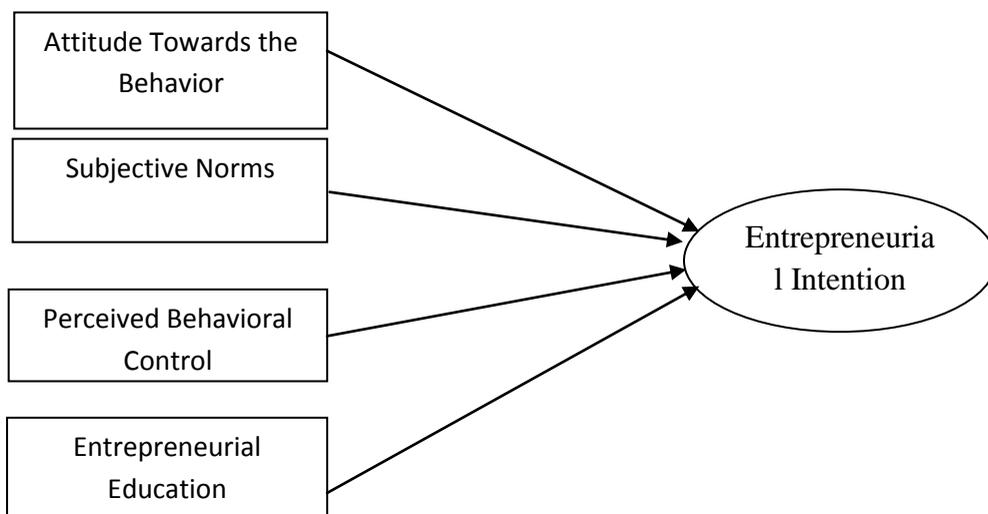
**Table 1: Summary of studies on Entrepreneurial Intentions of Students**

Author (Year)	Educational Level	Country of study	Sample Size	Major Findings
Lena and Wong (2003)	Undergraduate	Singapore	11,660	Relationship exists between attitude towards entrepreneurial education and business start-up
Franke and Luthje (2004)	Undergraduate	Austria, USA, Germany	1,313	Lower level of founding intentions among students in Munich and Vienna may be attributed to their less distinctive entrepreneurship education.
Segal et al. (2005)	Undergraduate	USA	115	Tolerance for risk, perceived feasibility and net desirability significantly predicted self-employment intentions
Guroi and Atsan (2006)	Undergraduate	Turkey	400	Except for tolerance for ambiguity and self-confidence, all entrepreneurial traits are found to be higher in entrepreneurially inclined students, as compared to entrepreneurially non-inclined students.
Giacomin et al. (2010)	Undergraduate and postgraduate	USA, China, India, Spain, Belgium	2093	Cultural differences should be taken into consideration when developing entrepreneurship education programs
Ozaralli and Rivenburgh (2016)	Junior and Senior students	USA and Turkey	589	Statistically significant relationship among personality attributes of optimism, innovativeness, risk-taking propensity and entrepreneurial intention.
Westhead and Soleswik (2015)	Graduate and Postgraduate	Norway	189	Women were significantly less likely to report high intensity of intention

### 3. Proposed Conceptual Model and Hypothesis

Based on the literature review, the following conceptual model has been proposed by the authors

**Figure 3: Proposed Conceptual Model**



The authors proposed the following Hypothesis to be tested.

*H1: Attitude towards the behavior has a significant positive effect on the entrepreneurial intentions of the students.*

*H2: Subjective norms have a significant positive effect on the entrepreneurial intentions of the students.*

*H3: Perceived behavioral control has a significant positive effect on the entrepreneurial intentions of the students.*

*H4: Entrepreneurial Education has a significant positive effect on the entrepreneurial intentions of the students.*

### 4. Need of The Study

Entrepreneurship has become a key topic for research these days. The main reason of this is the ever increasing demand for new entrepreneurs who play a vital role in the economic development of a country and promote a spirit of competitiveness in the economy. Therefore persistent efforts are being made by the policy makers all over the world to promote entrepreneurial activities within their respective countries. There have

been a number of studies in this area ,eg., Krueger et al. (2000; Shapero and Sokol's (1982); Frank et al. (2007); Learned, (1992); Naffziger et al. (1994); Segal et al. (2005), Ozaralli and Rivenburgh (2016); Westhead and Soleswik (2015)) etc. However, in the prior studies in this area there are very limited studies that have actually laid emphasis on identifying the antecedents of entrepreneurial intentions of university students and predicting the relative importance of these antecedents. Moreover a majority of these studies have been limited to predicting entrepreneurial intentions only in the developed countries Jones et al. (2008); Schwab et al. (1988); Wu and Wu (2008); Ozaralli and Rivenburgh (2016); Westhead and Soleswik (2015)). The paper extends research on student's entrepreneurship intentions by providing an insight on how the antecedents on entrepreneurial intention impact the entrepreneurial intentions of the university students.

## **5. Research Methodology**

### **5.1 Research Design**

The research design for this study is descriptive in nature as the authors have the objective of identifying the relevant antecedents of entrepreneurial intentions of university students and predicting their relevant importance. The proposed research area for the study is the Punjab and Chandigarh as the authors focused on the three largest public funded government universities of Punjab (a) Panjab University, Chandigarh (b) Punjabi University, Patiala (c) Guru Nanak Dev University, Amritsar.

### **5.2 Sampling**

**5.2.1 Sampling Unit:** The sampling unit for the study will be an individual student who is in the final year of his/her postgraduate management study program in one of the three selected public universities in Punjab and Chandigarh. An individual postgraduate management student has been selected because they have a strong foundation for business acumen and presently they are at a critical position of planning and selecting their future career path (Ahmed et al., 2010; Zain et al., 2010).

**5.2.2 Sample Size:** The sample size for the study is 300 students. Hair et al. (2010) have stated that sample sizes between 200 and 300 would be appropriate for using structural equation modeling.

**5.2.3 Sampling Techniques:** Systematic Random Sampling was used to select the eligible respondents out of the total population of final year postgraduate management students of Panjab University (Chandigarh), Punjabi University (Patiala) and Guru Nanak Dev University (Amritsar).

### 5.3 Data collection Tools and Techniques

The data was collected using a questionnaire which consisted of items from different standardized scales (Refer Table 1). The questionnaire comprised of two sections namely Section I and Section II. Section I contained questions relating to the demographic profile of the respondents and Section II consisted of items relating to 4 dependent variables ((attitude toward the behavior, subjective norm, perceived behavioral control, entrepreneurship education) and one dependent variable (entrepreneurial intention). All the constructs were measured on a 5 point Likert scale.

**Table 1 : Details of Constructs and Item Selection**

S.No.	Construct	Items Adopted From
1.	Attitude Toward Behavior	Linan and Chen (2009); Paco et al. (2011); Nishantha (2009); Sagiri and Appolloni (2009)
2.	Subjective Norms	Gurbuz and Aykol (2008); Leroy, Maes, Sels and Debrulle (2009); Leong (2008).
3.	Perceived Behavioral Control	Linan and Chen (2009); Dohse and Walter (2010); Paço et al. (2011)
4.	Entrepreneurial Education	Ooi et al. (2011); Lee et al. (2005); Selvarajah and Meyer (2011)
5.	Entrepreneurial Intention	Linan and Chen (2009); Leong (2008)

### 5.4 Pilot Test

A pilot test of the questionnaire was undertaken on a small sample set of 30 students to identify and correct any deficiencies in the questionnaire. Reliability test of all the items was undertaken and the cronbach alpha for all the items was in the range of (0.802 to 0.882) which is quite satisfactory as the cronbach’s alpha in all the cases was greater than 0.7 (Hair et. Al 2006). The result of pilot test has been summarized in the table 2 below:

**Table 2: Reliability Analysis during Pilot Test**

S.No.	Constructs	Number of Items	Cronbach’s alpha
1.	Attitude Towards Behavior	5	0.882
2.	Subjective Norm	5	0.912
3.	Perceived Behavioral Control	6	0.874
4.	Entrepreneurial Education	4	0.825
5.	Entrepreneurial Intention	5	0.802

## 6. DATA ANALYSIS RESULTS AND DISCUSSIONS

The data was analyzed using covariance based Structural Equation Modeling (SEM) on PASW 18 and AMOS 18. According to Landis et al. (2000) SEM analysis provides for the simultaneous assessment of both reliability and validity of the constructs. Construct reliability and validity has a direct effect on the substantive model being tested. Therefore, before going to the hypothesis testing the reliability and the validity of the construct is checked in the confirmatory factor analysis (Bagozzi and Edwards, 1998). After establishing the reliability and validity of the constructs in the measurement model we move further with the final hypothesis testing using structural model.

### 6.1 Measurement Model

The validity of a construct refers to the degree to which the measured or the observed items actually reflect the unobserved or the latent construct. Construct validity is examined through convergent validity and discriminant validity. Further, convergent validity gets established through three different ways:

- (1) Factor loadings should be greater than 0.70 (Hair et al., 2006)
- (2) Average Variance Extracted should be greater than 0.50 (Fornell and Larcker, 1981)
- (3) Composite reliability should be greater than 0.70 (Hair et al., 2006)

Convergent validity (see Table 3) gets established as the majority of the factor loadings were greater than 0.70 (Hair et al., 2006). The average variance extracted of the constructs ranged from 0.542 to 0.728 and was above the threshold of 0.50 (Fornell and Larcker, 1981). The composite reliability of all the five constructs was in the range of 0.854 to 0.938 and was above the threshold of 0.70 (Hair et al., 2006).

Furthermore, discriminant validity has been assessed by comparing AVE with the squared correlation between the constructs (Fornell and Larcker, 1981). For example, squared correlation between attitude towards the behavior and subjective norms is 0.361 but its AVE is higher (0.779), thus proving discriminant validity. Similarly, as all of squared correlations between pair of constructs came to be less than AVE (Table 4), discriminant validity gets established (Ok et al., 2005).

The initial CFA, with all latent factors modeled simultaneously as correlated first-order factors, indicated a reasonable model fit,  $\text{cmin}/df = 1.545$ ,  $p < .05$ , goodness-of-fit index (GFI) = .904, AGFI = 0.882 comparative fit index (CFI) = .973, Tucker–Lewis index (TLI) = .969, root mean square error of approximation (RMSEA) = .043, and standardized root mean square residual (SRMR) = .024. Thus, CFA confirms our

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preconceived measurement theory through construct validity and acceptable model fit indices. The graphical representation of measurement model has been given in Appendix section.

**Table 3: Results of Measurement Model (Confirmatory Factor Analysis)**

Constructs	Items	Convergent Validity		
		Factor Loadings	AVE	CR
Attitude Towards Behavior (ATB)	ATB1	0.691	0.607	0.885
	ATB2	0.873		
	ATB3	0.760		
	ATB4	0.803		
	ATB5	0.758		
Social Norms	SN1	0.780	0.728	0.930
	SN2	0.859		
	SN3	0.903		
	SN4	0.866		
	SN5	0.852		
Perceived Behavioral Control	PBC1	0.836	0.716	0.938
	PBC2	0.905		
	PBC3	0.871		
	PBC4	0.884		
	PBC5	0.821		
	PBC6	0.751		
Entrepreneurial Education	EE1	0.765	0.707	0.906
	EE2	0.878		
	EE3	0.840		
	EE4	0.876		
Entrepreneurial Intention	EI1	0.772	0.542	0.854
	EI2	0.762		
	EI3	0.775		
	EI4	0.757		
	EI5	0.600		

**Table 4 : Results of Discriminant Validity**

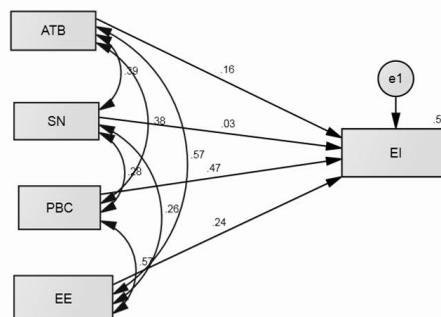
	ATB	SN	PBC	EE	EI
ATB	<b>0.779</b>				
SN	0.361	<b>0.853</b>			
PBC	0.353	0.259	<b>0.846</b>		
EE	0.521	0.245	0.527	<b>0.841</b>	
EI	0.431	0.252	0.612	0.540	<b>0.736</b>

*Note.* The boldfaced diagonal elements are the square root of the variance shared between the constructs and their measures. Off-diagonal elements are the correlations between constructs

### 6.2 Structural Model

A Path analysis model has been proposed with five constructs that included four exogeneous or independent variables (attitude towards the behavior, subjective norms, perceived behavioral control and entrepreneurial education) and one endogeneous or dependent variable (entrepreneurial intention). The model proposed that attitude towards behavior; subjective norms; perceived behavioral control and entrepreneurial education has a positive influence on the entrepreneurial intention of the students. After the CFA achieved the requisite model fit and reliability and validity of the construct is accomplished, the factor scores of the five unobserved variables were imputed into the SPSS data file. Using these factor scores a path model was established on AMOS 18 and Path Analysis was run. The result of the path analysis has been shown in the diagram below.

**Figure 4: Estimations of Path Analysis Model**



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The path analysis model also, indicated a reasonable model fit,  $cmin/df = 2.099$ ,  $p < .05$ , goodness-of-fit index (GFI)= 0.851, comparative fit index (CFI) = .968, , root mean square error of approximation (RMSEA) = .046.

All the four exogeneous variables together explained 54% of variations in the entrepreneurial intentions of the students. The details of the beta scores and their corresponding p values of different paths have been shown in the table no. 5 below.

**Table 5: Analysis of Proposed Hypothesis**

S.No.	Hypothesis	Evidence (Beta, Pvalue)	Result
H1	Attitude towards the behaviour positively affect entrepreneurial intentions of the students.	Beta- 0.157 Pvalue- 0.002	Supported
H2	Subjective norms positively affect entrepreneurial intentions of students.	Beta- 0.025 Pvalue- 0.561	Not Supported
H3	Perceived behavioral control positively affect entrepreneurial intentions of students.	Beta- 0.469 Pvalue- 0.000	Supported
H4	Entrepreneurial education positively affect entrepreneurial intentions of students.	Beta- 0.236 Pvalue- 0.000	Supported

The regression weight for the first hypothesis (*H1: Attitude towards the behavior positively affect the entrepreneurial intentions of the students*) is 0.157 and the corresponding p value is significant at 1%. This means that attitude towards the behavior has a significant impact on the entrepreneurial intention of the final year postgraduate management students. The regression weight for the second hypothesis (*H2: Subjective norms positively affect entrepreneurial intentions of the students*) is 0.025 and the corresponding p value is insignificant at both 1% and 5%. Therefore, it can be said that subjective norms does not have a significant impact on the entrepreneurial intentions of final year postgraduate management students in Punjab. The regression weight for the third hypothesis (*H3: Perceived behavioral control positively affect entrepreneurial intentions of students*) is 0.469 and the corresponding p value is significant at 1%. Therefore, the results support our third hypothesis and it can be said that perceieved behavioral control has a significant positive effect on entrepreneurial intentions of our respondents. Similarly the regression weight for the fourth hypothesis (*H4: Entrepreneurial education positively affect entrepreneurial intentions of students*) is 0.236 and the corresponding p value is significant at 1%. Therefore our fourth hypothesis also

gets accepted and it can be said that entrepreneurial education positively effects entrepreneurial intentions of university students in Punjab.

## 7. Conclusion

This study had made an understanding on the variables (attitude toward the behavior, subjective norm, perceived behavior control, entrepreneurship education) that affect student's entrepreneurial intention. Previously, most of the research in this area has been conducted only in developed countries. This paper is an attempt to identify and analyze the relative importance of antecedents of student's entrepreneurial intention in a developing country- India. The focus area for this study has been the state of Punjab and Union Territory- Chandigarh that are well know business-hubs in northern India. The study highlighted that attitude toward the behavior, perceived behavioral control and exposure to entrepreneurial education has a positive impact on student's entrepreneurial intentions. The favorable relationship of entrepreneurial education with student's entrepreneurial intentions is a valuable insight for policy makers in the Ministry of Human Resource Development of India to introduce more formal entrepreneurial courses in educational curriculum. Also it must work towards creating a more holistic entrepreneurial development programs through specialized institutions. In order to facilitate new venture creation for younger generation, government shall provide the funds and supporting infrastructures, as well as removing the impediments in the entrepreneurial career path (Bagheri & Pihie, 2011). Once they have the knowledge about entrepreneurship, this will encourage them to be self- employed (Gelard & Saleh, 2010). This is also consistent with the policy initiative of Skill India in the country as an attempt is being made to empower youth with skills that may help them in self-employment.

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## Appendix

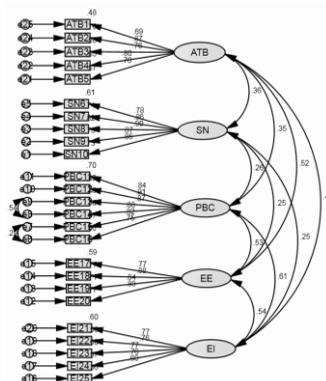


Figure 1: Measurement Model