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EFFECT OF ENTREPRENEURIAL RISK PERCEPTION ON ENTREPRENEURIAL INTENTION WITH THE MEDIATING ROLE OF PERCEIVED BEHAVIORAL CONTROL

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ABSTRACT
This article evaluated the multidimensional nature of entrepreneurial risk perceptions in an entrepreneurial setting and its effects on entrepreneurial intensions. Furthermore, mediation effects of perceived behavior control were also analyzed. Results of the study confirm multidimensional and domain specific nature of entrepreneurial risk perceptions. It also confirms the direct effects of positive and negative risk perceptions on entrepreneurial intentions. Lastly, through the lens of theory of planned behavior, entrepreneurial risk perceptions significantly effects perceived behavior control, which in turn has a significant effect on the entrepreneurial intensions.
KEYWORDS: Entrepreneurial intention, risk perception, behavior control

1. INTRODUCTION

Entrepreneurship, small and medium enterprises, new ventures and new business has been associated with risk in their definitions (Kozubíková, Belás, Bilan, & Bartos, 2015; Morgan, Orzen, Sefton, & Sisak, 2015; Robinson & Marino, 2015; Zheng & Chung, 2016). Risk taking and risk perception is identified as a multidimensional construct in the literature (Butt, Jamil, & Nawaz, 2015; Douglas, 2006; Simon, Houghton, & Aquino, 2000; Tang & Tang, 2007). They have also identified the decision making based on risk taking and perception as context dependent and domain specific (Blais & Weber, 2006; Einhorn & Hogarth, 1981; Figner & Weber, 2011; Hanoch, Johnson, & Wilke, 2006; Hogarth, 1987; Weber, Blais, & Betz, 2002). The purpose of this paper is to clarify the relationship of risk perception with perceived behavior control in entrepreneurial context and settings and in turn its association with creation of new venture or business. Finally this research sheds light on the construct of entrepreneurial risk perceptions and how different perceptions effects ones decision to set up a new business.

2. LITERATURE REVIEW

2.1 Entrepreneurial risk perceptions

Risk perceptions has been identified as the level of uncertainties (primarily negative) associated and inherent in an situation (Aslam & Hasnu, 2016; Forlani & Mullins, 2000). Researchers have identified these risk perception as a primary determinant of risk behavior and entrepreneurial decision making (Keh, Foo, & Lim, 2002; Simon, Houghton, & Aquino, 2000; Simon, Miree, Setzekorn, & Figon, 2015). The existing conceptualizations of risk perception are found to be negatively related to risking behaviors and decisions. Literature has also shown a negative relationship of these perceptions with decision of starting a new business ventures (A. T. Robinson & Marino, 2015; Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). Research on risk has identified it as a multidimensional construct. However, the literature regarding risk associated with business and entrepreneurship continue to treat it as a unidimensional phenomenon. Further entrepreneurial risk perceptions focuses on the negative repercussions i.e. the possibility and level of losses. Barbosa, Kickul, and Liao-Troth (2007) believe that risk perception can be negative (possibility of

loss) or positive (possibility of profit) regarding new business ventures. Theoretical analyses show that the risk in decision-making is considered as a gamble. Its each option can yield different results. In addition different outcomes have different probabilities which are considered during the decision making process.

2.2 Entrepreneurial risk perception: Risk as Opportunity and Risk as Threat

Dickson and Giglierano (1986) present one of the original model for explaining entrepreneurial risk perceptions. Before their model entrepreneurial risk perceptions was studied under the expected utility theory, which didn't encompass its whole perceptional spectrum. Their model had two main components: risk of failure (Sinking the boat risk) and the risk of missing an opportunity (Missing the boat risk). This conceptualization of entrepreneurial risk perceptions for the first time considered both sides of the continuum i.e. risk as a threat and risk as an opportunity. Yates and Stone (1992), Forlani and Mullins (2000) and Mullins and Forlani (2005) advanced this model by explaining entrepreneurial risk perceptions based on the potential losses/profits, the certainty and uncertainty of losses/profits and magnitude of losses/profits. As discussed earlier the downside of entrepreneurial risk perceptions and their negative relationships with new business ventures are abundantly available in literature. In contrast, the upside of it is scarce in literature. Risk as an opportunity refers to the potential gains of risk, the magnitude of gains and their certainty. The risk as an opportunity is the one of the primary driving force for entrepreneur, which motivates them to start new business and explore new avenues. Markman, Balkin, and Baron (2002) consider risk as an opportunity as a construct to better understand the motivational factors that drive entrepreneur. Furthermore, it helps in explaining the notion of regretful thinking in entrepreneurs when they lose an opportunity by not taking risks. From this discussion it is concluded that entrepreneurial risk perceptions should be considered a multidimensional variable, conceptualized at both sides of risk continuum i.e. risk as a threat and risk as an opportunity.

Barbosa et al. (2007) also identified three risk perception for both risk as a threat and opportunity. They are of the view that whenever a new venture is initiated the entrepreneurs they consider the financial, personal, and social factors. Previous researches also present these three as major determinants of starting new businesses. Financial factors refer to monetary gambles, and the descriptions of the ventures and the decisions associated to it. Literature also presents an individual at the center of the whole entrepreneurial process. Individual factor plays a key role in the process of new venture creation and can be labeled as personal factors of risk perceptions (Bouchikhi, 1993; Navis & Ozbek, 2016; Sarason, Dean, & Dillard, 2006; Vaghely & Julien, 2010). Lastly, there are the social factors that affect the risk perceptions. These factors are extracted from the theory of planned behaviors (Ajzen, 1991, 2002) and its application is noticed in the entrepreneurial literature (McNally, Martin, Honig, Bergmann, & Piperopoulos, 2016; Santos, Roomi, & Liñán, 2016; Shneor, Tiia Vissak, Bulanova, Isaksen, & Kolvereid, 2016). Barbosa et al. (2007) state that considerable social pressure to initiate or not to initiate a new business venture should be considered as an important factor of risk perceptions.

H1: Risk as opportunity significantly effects entrepreneurial intension

H2: Risk as threat significantly effects entrepreneurial intension

2.3 Perceived Behavior Control

Perceived behavioral control (PBC) is defined as "one's perception of one's ability to perform a particular behavior" (Ajzen (1991), p 184). Enhanced perceived behavioral control lead to heightened intensions of an individual to perform a specific behavior (Eagly & Chaiken, 1993). PBC has originated from the theory of planned behavior (TPB). This theory identifies three main independent cognations, which forms intensions in an individual to perform a specific behavior. First independent cognition is Attitude, which is an evaluation of performing a behavior. This evaluation is based upon cost to benefit analysis of performing a behavior and its consequences. Second is Subjective Norms, which is a perceived social pressure to perform a behavior i.e. an evaluation of approval or disapproval a behavior is likely to receive in the society. Alternatively, it is an evaluation of behaviors against salient social referents and the motivations to comply with them. The last independent cognition identified by TPB is Perceived behavioral control, which is based on "a deliberation over the likelihood of encountering salient facilitating or inhibiting control factors weighted by the power of those factors to facilitate or inhibit behavior" (Kidwell & Jewell (2010), p. 2408).

PBC reflects a perception of an individual that he or she has control on a specific behavior. Researcher postulate with an increase in PBC the likelihood of performing that behavior also increase. However, research also show that PBC has a direct relationship with intensions. An increase in the PBC results in heightened intension to perform that behavior thus acting as a mediator between PBC and the actual behavior. PBC is an important construct in explaining the dynamics of entrepreneurial decision-making. It can explain both the positive and negative intensions to start a new business.

H2: Perceived Behavior control significantly mediates the relationships between Risk as Opportunity, Risk as Threat and Entrepreneurial Intension.

2.4 Entrepreneurial Intension

Transformation of individual efforts in to actions through conversion, motivation and simulation are called intentions (Liñán & Santos, 2007). This definition shows that exhibition of any behaviors primary depends upon the level of intensions an individual have to perform that behavior. It also explains that intensions motivate and simulate individual to perform a behavior. Researchers have identified intensions as a primary determinant of planned behaviors such as entrepreneurship (Ajzen, 1991, 2002; Bird, 1988; Davidsson & Honig, 2003; Krueger, Reilly, & Carsrud, 2000). Vesalainen and Pihkala (1999) define Entrepreneurial intention as "a state of mind directing a person's attention toward a specific object or a path in order to achieve something" (p. 3). Bird (1988) is of the view that the new business development, implementation and evaluations is directed, guided, coordinated, and controlled by EI. Tubbs and Ekeberg (1991) presented a cognitive perspective of EI by stating it a cognitive explanation of both the setting and achieving of entrepreneurial objectives, goals and actions. Researchers have identified different situational and individual factors as predictors of entrepreneurial intensions.

Researchers like McClelland (1967), Brockhaus (1980), and Krueger et al. (2000) focused on individual factors: especially characteristics that effects EI. Mitton (1989) furthered this concept and presented three main psychological characteristics that generate EI in an individual, these are commitment to the venture, autonomy, and risk taking or challenge seeking behavior. Chye Koh (1996) is of the view that entrepreneurs have their unique psychological traits that are the determinants of their EI generation. The relationships between psychological characteristics and EI has been wider researched through theoretically and empirically studied. Bygrave (1989) presents achievement orientation, internal locus of control, ambiguity tolerance, and risk-taking propensity as determinants of EI. Robinson, Stimpson, Huefner, and Hunt (1991) in their research identify self-confidence, locus of control, innovativeness, and achievement as its predictors. Researchers have also identified a positive relationship between education and EI (Fayolle & Gailly, 2015; Li, Wu, & Wu, 2008; Santos et al., 2016; Westhead & Solesvik, 2015). Studies also show that culture factors also play an important factor in generation of EI. They have identified entrepreneurship related psychological attributes that are acquired through culture (Gibb & Ritchie, 1982; Radu & Redien-Collot, 2008; Vesper, 1990; Wincent & Örtqvist, 2009a, 2009b). Solomon, Yar Hamidi, Wennberg, and Berglund (2008) presents a strong relationship between innovativeness and EI. Kolvereid (1996) presents a positive relationship of PBC and EI. Fayolle (2005) and Solomon, Kickul, Wilson, Marlino, and Barbosa (2008) have identified self-efficacy as a construct having considerable influence on EI. The studies of Zhao, Seibert, and Hills (2005) and Matlay et al. (2012) most closely relates to our current study as they have identified PBC and self-efficacy as major determinants of EI in university students.

3. METHODOLOGY

3.1 Participants

Four hundred and sixteen students enrolled in three universities participated in the survey and returned the questionnaire sent to them. Among the sample 281 were male and 134 were female students. Furthermore 183 were from undergraduates (Bachler programs) and 232 were from post-graduate (Masters Programs). The mean age of the sample was 22.78 years with a standard deviation of 2.27 years.

3.2 Measures

3.2.1 Entrepreneurial risk perception

The measure for entrepreneurial risk perceptions developed by Barbosa et al. (2007) was used in the study. It consists of 15 items from three risk domains (Personal, Social and Financial) with each domain divided into two subdomains (Positive and Negative). 7 point Likert scale was used to evaluate each domain ranging from 1 highly disagree to 7 highly agree.

3.2.2 Perceived behavioral control

A four item perceived behavior control measure developed by Ajzen (2002) was used. 7 point Likert scale was used to evaluate PBC ranging from 1 highly disagree to 7 highly agree.

3.2.3 Entrepreneurial intention.

One item Entrepreneurial intention measure was adopted from Krueger et al. (2000) was used in this study. 7 point Likert scale was used to evaluate the construct ranging from 1 highly disagree to 7 highly agree.

4. ANALYSIS AND RESULTS

Structural equation modeling was used in this study. This cross-sectional modeling technique is linear in nature and strives to present generalized and clear statistical models. SEM is predominantly a confirmatory analysis to identify whether a model is valid or not. The biggest advantage of SEM is that not only it provided the statistics for Model Fitness but it also conducts Factor Analysis, Path analysis, and Multiple Regression, which makes it easy for the researcher to interpret the results. SPSS Amos and SmartPLS were used for SEM analysis. Factor analysis was conducted on all the measures using the covariance matrix. Furthermore maximum likelihood method was employed for estimating the model fit indices. The results of the factor analysis showed that the average loading of all the items in a construct is more than 0.6 (Appendix-1). The model fit indices in structural equation modeling provide the bases as whether the model is suitable and satisfactory for conducting further analysis. Researchers have suggested CMIN/DF, Normed Fit Index (NFI), Goodness of Fit Index (GFI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) for evaluating a model fit. Furthermore, they have also provided their minimum values which shows an acceptable model fit. In table no 1 model fit indices of this study are presented with the minimum thresholds and citations.

Table 1: Model Fit Indices for This Study

Indices	Level of Acceptability	Values
$\frac{\text{CMIN}}{\text{DF}}$	less than 2 or 3 (Kline, 2011; Ullman and Bentler, 2003).	2.147
Normed Fit Index (NFI)	Exceeds 0.90 (Byrne, 2013) or Exceeds 0.95 (Schumacker & Lomax, 2004)	0.91
Goodness of Fit Index (GFI)	Exceeds 0.90 (Byrne, 2013)	0.97
Comparative Fit Index (CFI)	Exceeds 0.93 (Byrne, 2013) or Exceeds 0.85 (Bollen, 1989)	0.923
Root Mean Square Error Of Approximation (RMSEA)	Less than 0.08 (Browne & Cudeck, 1992) or Less than 0.05 (Stieger, 1990)	0.038

All the values display an adequate model fit.

4.1 Latent Variable Correlations, AVE and Reliability statistic

The latent variable correlations, AVE and Cronbach alpha value for each construct are as follows:

Table 2: Correlation between variables, AVE and Reliability Statistic

	AVE	FN	FP	PN	PP	SN	SP	PBC
FN	0.556	(0.814)						
FP	0.682	0.275**	(0.71)					
PN	0.523	0.175*	0.157*	(0.717)				
PP	0.741	0.261**	0.226**	0.117*	(0.855)			
SN	0.584	0.157*	0.188*	0.264**	0.013	(0.767)		
SP	0.705	0.177*	0.218**	0.09	0.319**	0.178*	(0.748)	
PBC	0.557	0.274**	0.248**	0.009	0.314**	0.135*	0.352**	(0.805)
EI		0.147*	0.139*	0.089	0.281**	0.111*	0.352**	0.298**

AVE (Average Variance Explained), FN (Financial Negative), FP (Financial Positive), PN (Personal Negative), PP (Personal Positive), SN (Social Negative), SP (Social Positive), PBC (Perceived Behavioral Control).
The values in parenthesis represent the Cronbach alpha value for each construct.
As EI was measured by one item the value of AVE and Cronbach Alpha is 1
** 0.01< sig <0.05, ** sig <0.01*

Table no 2 provide the information about the AVE by the items of each latent variable. The AVE values for all the variables are above the 0.5 threshold. The values in the parenthesis display Cronbach alpha values that are also above the minimum value of 0.7. The Table also shows the correlation between the latent variables. The dependent

variable EI is positive related with all the variables of the study. However, the relations are not significant for the personal negative risk perceptions. The mediating variable PBC also has a positive relationship with all the variables of the study however similar to EI the relationship isn't significant for personal negative risk perceptions.

4.2 The Structural Model

The structural model for the study is as follows:

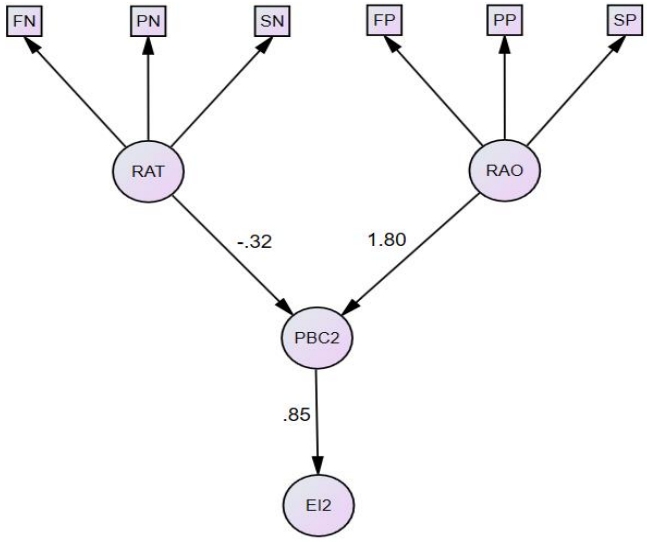

Figure 1: The structural Model

The structural model to evaluate the mediating effects of PBC between the relationships of Risk perception as threat (RAT) and Risk perceptions as an Opportunity (RAO). The predictors of RAT are negative financial, personal and social risk perceptions. Similarly the predictors of RAO are positive financial, personal and social risk perceptions. Figure 1 shows that negative beta value for the relationship between RAT and PBC (-0.32) while a positive value between RAO and PBC (1.80). The beta value between mediating variable PBC and dependent variable EI (0.85).

Table 3: Mediating effects of PBC

Model	R	R^2	Adjusted R^2	ΔR^2	ΔF	Sig level
1	0.402a	0.161	0.149	0.161	13.125	Less than 0.01
2	0.426b	0.181	0.167	0.020	9.991	Less than 0.01

a. Predictors: (Constant), RAT, RAO

b. Predictors: (Constant), RAT, RAO, PBC

Table 3 shows the mediating effects of PBC between the relationship of RAT, RAO and PBC. In model 1 the predictors of EI were RAT and RAO with R2=0.161 with f=13.125 and sig less than 0.01. When the mediating variable was added in model 2 the R2 increased to 0.181. The ΔR2=0.020 with the ΔF=9.991 significant at less than 0.01. The structural model shows a significant mediation effect of PBC between the relationship of RAT, RAO and EI.

5. DISCUSSION

The analysis for this article had two main objective. First to analyze the internal structure of entrepreneurial risk perception and second through structural equational modeling analyze risk perceptions as antecedents of perceived behavioral control, and entrepreneurial intentions. The internal structure of entrepreneurial risk perception was evaluated through factor analysis. The results show that RAT and RAO have a correlation of 0.269 which being significant yet not strong. Krueger and Dickson (1994) states that perception of threat and opportunity effects entrepreneurial risk taking are independent from each other. Confirmatory factor analysis was also conducted to identify the multidimensionality of the subdomains of entrepreneurial risk perceptions. The results identify two level of multidimensionality. At the construct level risk perceptions are bidimensional i.e. risk as threat and risk as

opportunity. Furthermore, the second level of multidimensionality is the domain specific nature of the construct. Results of the study clearly identify the positive and negative domains of financial, social and personal risk perceptions.

As hypothesizes in the study and supported by the study results both RAT and RAO perceptions significantly effect EI. Furthermore, these effect is in opposite ways i.e. RAT decreases the tendency of individuals to display EI while RAO tends to increase EI. These findings are supported by previous literature. Dickson and Giglierano (1986) are of the view that risk of missing an opportunity generate intensions for actions thus motivating individuals to start a venture. In contrast, risk of failure effects the planning and analysis process of individual thus creating a bias which leads to lack of actions and lowered EI. Finally, the results of this study also shows that RAT and RAO significant effects PBC. As discussed earlier PBC is a major construct of the theory of planned behavior. Furthermore the theory of planned behavior has also theoretically explains EI and other entrepreneurial constructs. The results of this study shows that by influencing PBC, RAT and RAO also affect EI. Both the positive and negative risk perceptions may be related to the cognitive heuristics such as illusion of control, self-efficacy and feasibility judgement, which should also be researched for future studies.

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Appendix 1: Factor Analysis

	EI	FN	FP	PBC	PN	PP	SN	SP
EI	1							
FN1		0.5709						
FN2		0.7769						
FN3		0.662						
FP1			0.8977					
FP2			0.5978					
PBC1				0.6823				
PBC2				0.6662				
PBC3				0.5656				
PBC4				0.5473				
PN1					0.6821			
PN2					0.6205			
PN3					0.6459			
PP1						0.7119		
PP2						0.8806		
SN1							0.6553	
SN2							0.6996	
SN3							0.7305	
SP1								0.747
SP2								0.8071

Method: Maximum likelihood method
Extraction: Varimax Rotation