

GENDER EFFECTS ON RISK PERCEPTION AND RISK BEHAVIOR OF ENTREPRENEURS AT SMES IN SRI LANKA

PRADANA MUDIYANSELAGE BANDULA JAYATHILAKE

PHD SCHOLAR
SCHOOL OF MANAGEMENT,
WUHAN UNIVERSITY OF TECHNOLOGY,
WUHAN, HUBEI, P.R. CHINA

ABSTRACT

Risk-taking has long been recognized as the cornerstone skill of successful entrepreneurs. Although the literature provides broad and extensive empirical evidence on the risk behavior of entrepreneurs, an adequate investigation has not yet been carried out in the developing countries and on female entrepreneurship. This study aims to investigate the gender effects on risk perception and risk behavior of entrepreneurs in Sri Lankan SMEs. A stratified sampling technique was employed in selection of the sample which consisted of 125 owner managers from Sri Lankan SMEs. The data were collected by distributing a structured questionnaire, which was specially designed for the study, individually to the selected respondents. Results of the correlation and hierarchical regression show that there is a gender effect on risk perception and risk behavior of the entrepreneurs and male entrepreneurs are likely to assume higher risk than female entrepreneurs. The gender effect on risk behavior found is partially mediated by risk propensity. The finding of this study has the potential to offer new and important insights concerning the risk behavior of entrepreneurs.

KEYWORDS: Entrepreneurs, risk behavior, risk perception, risk propensity.

INTRODUCTION

Risk is inherent in decision making when uncertainty and outcomes are involve. The literature provides wide and extensive empirical evidence on risk and risk taking behavior of entrepreneurs ([Neelakantan, 2010](#); [Gustafson, 1998](#); [Yordanova and Boshnakova, 2011](#)). However, with a few exceptions, the effect of risk, risk perception and risk propensities of entrepreneurs have not been explicitly examined in the empirical research. Moreover, the increased participation of women in the entrepreneurial activities has encouraged research interest in gender differences in the business decision making. A few studies has been investigated the gender differences in attitudes to risk and risk taking behavior does not provides comparable evidence ([Neelakantan, 2010](#); [Yordanova](#); [Boshnakova, 2011](#)) . On the other hand, empirical studies on risk taking phenomenon of entrepreneurs in the developing countries are limited and to be called in order to fill the gap in the literature. Therefore, a systematic study on gender differences on risk taking behavior may enhance the current literature and our understanding about the entrepreneurial risk taking behavior.

The prime objective of the present study is to explore the risk taking behavior of the entrepreneurs by giving special attention to gender diversity. Since the Sri Lankan economy is characterized with a high degree of turbulence and uncertainty due to economic, institutional and social changes that have been occurred after the economic reforms in 1977 and the forcible competition in the global market, entrepreneurs in the country are confronted with risky decision making situations continuously. Thus, this study aims to examine the gender deference in risk taking behavior of Sri Lankan entrepreneurs.

The rest of this paper is organized as follows. The literature dealing with risk taking behavior and gender effect on risk taking is reviewed in the second section. The methodological approach used in the study is outlined in third section. Section four is devoted to discuss the empirical results which is followed by the final section contains conclusion and implication of the study.

LITERATURE

Risk taking was an earliest recognized entrepreneurial characteristic by Cantillon and later J.S. Mill both described an entrepreneur as an individual who assumed the risk for the firm (Brush 1997). Entrepreneurs are widely supposed to be willing to assume risk than managers and salaried employees (Brush, 1997). Brockhaus (1980) defined the risk taking as;

“the perceived possibility of receiving the rewards associated with success of the proposed situation, which is required by an individual before he will subject himself to the consequences associated with failure, the alternative situation providing less reward as well as less of severe consequences than the proposed situation”.

The literature of cognitive psychology supports the view that risk taking is mainly domain specific. Heath and Tversky (1991) have developed a theory that may explain why a majority of decision makers do not see a calculated risk as a chance. An entrepreneur is more oriented to take risks in a domain where he or she is an expert. This means that individuals will be more risk averse in area in which they have little knowledge to estimate the probabilities to different outcomes (Gustafson, 1998). Sitkin and Pablo (1992) defined risk behavior as individuals' decision making behavior in risky situations. A decision will be riskier when there is uncertainty about potential outcomes, a high volatility in possible outcomes or potential for intense outcomes. The individual risk behavior that can be changed over time is known as the risk propensity which is determined by risk preferences, inertia and outcome history (Sitkin and Pablo, 1992). The risk perception is defined as a decision maker's assessment of the risk associated with a certain situation. The risk perception is supposed to be influenced by risk propensity, problem framing, social influences, problem domain familiarity and system within the organization. Risk perception is one such characteristics of the risk taker and is one of the psychological characteristic that interacts within the risk taker's risk analysis and decision making.

Perception of risk can be altered based on the quality and type of external knowledge that is obtained by the risk taker concerning the potential variability and probabilities of the new venture future outcome. Risk taking propensity involves a decision making orientation toward accepting greater likelihood of loss in exchange for greater potential rewards. One particular characteristics of entrepreneurs revealed in several research studies is the perception of risk.

People differ in their response to risk and uncertainty. These differences in risk response can be explained by risk attitudes and risk perceptions. Risk attitudes can be expressed as part of a person's utility function. A person's utility function reveals a person's preferences of economic or objects entities with respect to perceived risk and expected return. It is obvious that people differ in the way they resolve work related or personal decisions that involve risk and uncertainty. Such differences are often described or explained by differences in risk attitudes. Byraes *et al.* (1999) noted that men tend to take more risks overall while the magnitude of gender difference varied as a function of domain. The decision making literature shows that individual perceives different levels of risk when confronted with identical decision making situation (Nutt, 1993). The way of gathering information and way of interpreting them may be affected these cognitive biases. The literature shows the evidence of existing link between risk perception and availability, overconfidence, the belief in the law of numbers, the illusion of control and the planning fallacy (Simon *et al.* 2000). On the other hand, it is widely accepted that decision making in business organization is influenced significantly by behavioral factors and is rarely fully rational and profit maximizing (Yordanova and Boshnakova, 2011). Schwenk (1998) emphasizes that study of cognition is critical for understanding strategic decision making. Cognitive simplification processes help to simplify decision makers' perceptions of complex problems by reducing the amount of information they must consider in decision making (Schwenk, 1998). Some researchers argue that the nature of the decision problems can vary in the level of ambiguity or costs associated with the risk. Hudgens and Fatkin (1985) find gender differences in risk preference only in tasks with low probabilities of success. Further they argue that gender differences will be more pronounced whereas there is a greater degree of ambiguity in the decision instance.

Many researchers have find a lower degree of confidence amongst women in their ability to make decisions and in outcome of the financial decision making (Stinerock *et al.* 1999; Hudgens and Fatkin, 1985). Estes and Hosseini (1988) suggest that gender significantly influence the confidence in investment decisions. A study of Stinerock *et al.* (1999) shows that women have low risk preference and a higher degree of anxiety in financial decisions than men and strong desire for used of financial advisors. Bromiley and Curley (1992) argue that gender differences in behavior and attitudes towards risk vary with the behavioral context such as financial decisions or leisure choice. Hudgens and Fatkin (1985) conclude that women show lower preference for risk than men. Similarly, a study of Sexton and Bowman-Upton (1990) on entrepreneurs finds lower scores for female entrepreneurs on four types of risk taking using self administered psychometric measures. The evidence shows that decision making strategies are affected by the gender appropriateness of a task. Hudgens and Fatkin (1985) note that male tend to take more time to make decisions under risk than female. Similarly, Quereshi and Seitz (1993) conclude that males usually look for numerical information whereas females look for visual patterns in the decision situation at risk. This finding confirms the view that women have superior verbal skills whilst men have superior numerical skills on average (Hyde, 1990).

The situation familiarity has been identified as a significant factor which effects on risk behavior than gender role in decision making (Levin *et al.* 1998; Voelz, 1985). Sexton and bowman-Upton (1990) noted that women bias towards male role identification in entrepreneurial population which is absent from non specialist population. Some studies show that framing of decisions can be also affected risk behavior in any situation. In particular, behavioral differences

are more marked when decision problems are framed in terms of losses than gains (Diskson, 1998).

There is a rich literature relates to managerial decision making and the existence of gender differences in business decision making. The general psychology literature provides evidences on gender difference through ways of primary and meta-analytic studies in social, sexual and motor behavior, attitudes, cognitive ability, decision making, and personality traits. In particular, Eagly *et al.* (1995) shows that there is general agreement among the psychologists that their meta-analytic results confirm the evidence of gender difference. However, this gender difference is determined by the general traits rather than contextual responses to social and environment factors. In the context of the business decision making, literature shows the evidence of gender difference in decision making. The research before 1980 show that women are more cautious, less confident, less aggressive, easier to persuade and have inferior leadership and problem solving abilities when making decision under risk compare to the men (Johnson and Powell, 1994). After examining the early literature relates business decision making Johnson and Powell (1994) conclude that the evidence on gender differences is no longer clear cut. Chaganti (1986) supports this view by exploring no significant gender difference between male and female managers. Many researchers argue that there is no significant difference between male and female decision making capabilities and leadership roles (Johnson and Powell, 1994; Hollander, 1992; Eagly *et al.* 1995).

Research focusing on financial decision making has recognized a lower degree of confidence among women in their ability to make decisions and in the outcome of those decisions (Stinerock *et al.* 1991; Hallahan *et al.* 2004). In particular, Estes and Hosseini (1988) noted that female tend to exhibit less confidence about their decisions after controlling for factors such as age, education, knowledge, experience and asset holding. Stinerock *et al.* (1991) find that women tend to assume lower risk and a higher degree of anxiety in financial decisions than men. Similarly, studies show that women and men differ in their risk preferences and risk perception and women tend to have lower risk preferences than men in the general population as well as specialist population such as managers, entrepreneurs (Croson and Gneezy, 2009; Hallahan *et al.* 2004). Gustafson (1998) indicates that women and men perceive different risk and women tend to less concern about their working life and more tendencies to concern risks related to their personal life. Xie *et al.* (2003) suggest that occupational affiliation has a significant influence on making gender differences in risk perception. Biological factors, socialization and social experience, knowledge and sociopolitical factors have been cited in many empirical studies concerning gender differences in risk perception and attitudes (Schubert, 2006; Gustafson, 1998).

Recent studies have showed that women and men differ in risk taking propensity and behavior regardless of the groups they belong, whether in the general population or in specialized groups such as managers, entrepreneurs *ect.* (Newby, 2005; Holt and Laury, 2002; Donkers *et al.* 2001; 2008; Neelakantan, 2010; Brooks *et al.*, 2009). Nevertheless, studies of Johnson and Powell (1994) and Atkinson *et al.* (2003) suggest that women and men are similar in terms of risk taking propensity and risk behavior by examining the risk taking behavior of a sample consists of managers, entrepreneurs and professionals. Fehr-Duda *et al.* (2006) argues that gender differences in risk behavior are domain specific and context dependent. Similarly, Gysler *et al.*

(2002) note that risk taking behavior does not merely depend on gender but controlling for overconfidence and financial market knowledge.

HYPOTHESES

With the support of the theoretical and empirical literature reviewed in the above section, the study proposes following hypotheses.

H₁: Female entrepreneurs exhibit lower level of risk perception than male entrepreneurs

H₂: Female entrepreneurs tend to accept lower risk propensity than male entrepreneurs

H₃: Human capital of the entrepreneurs positively correlates with their risk propensity

H₄: The gender effect on entrepreneurial risk behavior is mediated by risk propensity

RESEARCH METHODS

The study was basically designed on the primary data gathered through a survey of SMEs owner managers. To ensure the validity of the study, a stratified sampling technique was administered to select the sample which includes 125 owner managers from the firms with 5 to 25 employees. The sample consists with 80 male and 45 female entrepreneurs. Risk behavior is measured using five statements on a five point Likert scale (1 = completely disagree, 5 = completely agree). The level of risks that associated with respondents' previous decisions is used to measure the risk perception. The responses are evaluated on a five pint Likert scale 1 being an extremely low and 5 being an extremely high. Risk taking propensity is also measured on a Five point Likert scale with 5 statements related to the business domain. Conbach's alpha used for the above scales were well over the 0.7 (0.842, 0.917 and 0.862 respectively) and acceptable for the present study.

Data analysis consists of descriptive statistics procedure, independent sample t-test, correlation and hierarchical regression analysis. Descriptive statistics was initially used to identify the basic nature of the study variables. Independent samples t-tests were performed to test and evaluate the risk behavior of the respondent on their gender. Correlation analysis evaluates the relationship between the study variables. Hierarchical regression is performed to examine the gender effect on risk behavior of the entrepreneurs and mediating role of risk propensity on the relationship between gender and risk behavior. The concept of analysis of mediating variable proposed by [Hair et al. \(1998\)](#) was used to test the mediating role of risk propensity towards the gender effect on risk behavior of the entrepreneurs.

RESULTS

Table 1 shows the descriptive statistics and results of independent sample t-test which was performed to test the gender effect on each of study variables.

TABLE 1: DESCRIPTIVE STATISTICS AND RESULTS OF T-TEST

Variable	Male		Female		Total		Results of t-test	
	Mean	SD	Mean	SD	Mean	SD	t	p
Age	39.64	8.69	38.65	6.63	39.47	8.21	0.64	0.525
Education	2.58	0.56	2.97	0.19	2.66	0.53	-3.21	0.004
Business experience	4.98	1.27	3.94	1.33	4.77	1.31	4.47	0.001
Risk behavior	3.84	0.53	3.41	0.33	3.56	0.48	3.65	0.002
Risk perception	3.68	0.48	3.4	0.29	3.56	0.38	2.89	0.021
Risk propensity	3.57	0.56	3.25	0.44	3.51	0.55	3.02	0.014

The results in table 1 show that male entrepreneurs are more likely to be having higher experience while female entrepreneurs are more likely to be having higher education qualification. With respect the risk variables, higher means values are recorded for male entrepreneurs than female entrepreneurs. The results of independent t-test also confirm that male entrepreneurs exhibit higher level of risk in each of the risk constructs than female entrepreneurs. Therefore, this results support to first and second hypothesis of the study that female entrepreneurs exhibit lower level of risk perception than male entrepreneurs and women entrepreneurs tend to accept lower risk propensity than male entrepreneurs based on the results derived from the independent samples t-test.

The Pearson's correlation analysis was performed in analyzing the interrelationship between the study variables. The results are reported in Table 2. The result indicates that either age and education levels of the respondents do not show a relationship with any of risk variables of the study. Business experience which is acquired from similar industries is positively correlated with each of risk variables at 0.05 level of the significance. Hence, these results partially support the third hypothesis of the study; human capital of the entrepreneurs positively correlates with their risk propensity.

TABLE 2 RESULTS OF CORRELATION

Variable	A	B	C	D	E	F
A. Gender	1.000					
B. Age	0.411	1.000				
C. Education	0.296**	-0.212*	1.000			
D. Experience	0.317**	0.379**	0.351	1.000		
E. Risk behavior	0.182*	0.046	0.123	0.169*	1.000	
F. Risk perception	0.234**	0.031	0.126	0.108*	0.532**	1.000
G. Risk propensity	0.216**	0.219	0.300	0.236**	0.469**	0.548**

* - Correlation is significant at 0.05

** - Correlation is significant at 0.01

Table 3 presents the results of hierarchical regression analysis which was performed to examine the gender effect on risk behavior and mediating effect risk propensity on the relationship between gender and risk behavior. Model I contains the results for the dependent variable of risk propensity on the independent variables of gender and business experience. Education and age variables were omitted in this analysis since the above correlation results suggests that those are not significantly correlated with each of risk variables. R^2 value (0.248) associated with the model depicts that the model has ability to predict the risk propensity through the gender and experience of the entrepreneurs. The estimated coefficient for gender with negative sign indicates that there is significant gender effects on risk taking propensity since male tend to exhibit higher level of risk propensity than that of female. This result support and confirm the second hypothesis which has been accepted in the above analysis based on the result of independent sample t-test. Result further shows that business experience does a positive impact toward the risk propensity of entrepreneurs and which show entrepreneurs tendency toward achieving higher risk when they get experiences and familiarity in the field.

The model II, III and IV are associated with the test of mediating role of risk propensity on the effect of gender on risk behavior. The results of risk behavior regressed on gender is reported with Model II. The model shows that gender has significance influence on risk behavior while male and female exhibit different risk perception. Model III presents the results for risk propensity regressed on gender and it indicates that gender has a significant effect on risk propensity. Final model reports the results of the regression for risk behavior on both of gender and risk propensity. The results show the evidence that both of variables significantly influence towards risk behavior. However, since coefficient for gender in final model is lesser when compared with the corresponding coefficient in the model III, risk propensity partially mediates

the gender effect on risk behavior. Thus, fourth hypothesis of the study can be accepted and it can be concluded that risk propensity mediates the effect of gender on risk behavior of the entrepreneurs.

TABLE 3: RESULTS OF THE HIERARCHICAL REGRESSION

Variable	Model 1		Model 2		Model 3		Model 4	
	β	P	β	p	β	p	β	p
Constant	3.38	0.000	0.823	0.031	2.84	0.000	0.921	0.000
Gender	0.66	0.002	0.864	0.001	0.735		0.563	0.032
Experience	0.89	0.028						
Risk propensity							0.947	0.001
R ²	0.248		0.415		0.189		0.563	
F	15.35		35.96		14.26		42.28	

DISCUSSION

This study aims to examine gender role in entrepreneurial risk taking behavior in the context of SMEs. The study was primarily motivated by the inadequate empirical literature on entrepreneurial risk taking behavior and on gender differences of risk taking behavior in particular to the developing countries. After reviewing the theoretical and empirical literature to the date, the study proposed four hypotheses for the study. The result shows that gender has a significant effect on all risk taking dimension of risk perception, risk propensity and risk behavior and male tend to accept higher level of risk than that of female. This finding confirms the empirical literature in the similar context (Garbarino and Strahilevits, 2004; Harris et al., 2006; Gustafson, 1998). Business experiences in the similar industries have been found as a significant factor which has a positive influence towards the risk taking behavior of entrepreneurs. However, the result does not provide evidence for the existing a link between either of education or age with risk taking behavior. A further result reveals that risk propensity mediates partially the effect of gender on risk behavior. The findings of the study added new knowledge to the existing literature in particular to the entrepreneurs in developing countries. Since female entrepreneurs exhibit lower risk preference and risk propensity than male entrepreneurs, the relevant parties those who involve at promoting entrepreneurial development should take this difference into consideration in achieving desirable objectives of their endeavors. The result of the study is heavily based on the self reported data gathered from 215 entrepreneurs in Sri Lanka. Therefore, the finding may not be applicable to other setting where cultural, economical and institutional factors are diverse. Future research should focus the same problem in different context with

taking new factors into consideration in order to widen the applicability of findings and our understanding of the subject.

CONCLUSION

This paper investigates the gender effect of risk perception and risk taking behavior of entrepreneurs in SMEs. The limited empirical evidence deal with risk propensity, risk perception of entrepreneurs, especially of women, stimulates the study. The study empirically examined the underline effect on the data collected from 125 entrepreneurs from Sri Lankan SMEs. The result reveals that male and female do not share similar level of risk perception and risk propensity in entrepreneurial activities and male exhibit higher level of risk than female entrepreneurs. results further indicates that risk propensity mediates the effect of gender on risk behavior of the entrepreneurs. The finding of the study enhanced our understanding of gender effect on risk behavior of entrepreneurs in the context SMEs. Policy makers and other relevant parties should keep this gender effect on risk behavior of the entrepreneurs in their mind at the events which promote the entrepreneurial development and growth.

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