

# Innovation and the entrepreneurial performance in women-owned small and medium-sized enterprises in Pakistan

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## ABSTRACT

**Purpose:** This study is an attempt to examine the impact of entrepreneurship and innovation on the entrepreneurial performance of women-owned small and medium-sized enterprises in Pakistan. The study also investigates the mediating role of innovation in the relationship between entrepreneurship and performance in women-owned businesses from emerging economy of Pakistan.

**Methodology/Approach:** Data was collected from the 261 registered women entrepreneurs from all the fifteen Pakistani women's chambers of commerce and industries by employing self-administered questionnaires for complementing a comprehensive literature review on innovation and women's entrepreneurship and performance. Data were analyzed using hierarchical multiple regression and factor analysis.

**Findings:** The results show a significant direct relationship between entrepreneurship, innovation and the entrepreneurial performance. The two entrepreneurial traits, namely risk taking tendency and the need for achievement have a significant effect on innovation and the entrepreneurial performance. Moreover, innovation has a direct relationship with performance and also it mediates the entrepreneurship- performance link of women-owned small and medium-sized enterprises in Pakistan.

**Research limitations:** The present study is limited to only women entrepreneurs who are registered with the chambers of commerce and industries in Pakistan. Women entrepreneurs associated with federations and several women business development centers have not been considered in the population. Practical implications: This study emphasizes the significance of entrepreneurship to innovation and the entrepreneurial performance in women-owned SMEs. It is a major contribution to understanding the existing practices and theories of entrepreneurship and innovation in enterprises. In order to improve performance and innovation, management should focus and promote risk taking and the need for achievement. The government should initiate support programs for women's entrepreneurial activities; promote fair competition between men and women and give special grants to women entrepreneurs in order to improve their performance.

## Introduction

Entrepreneurship is considered to be a crucial driver of economic growth and development of a country as it helps in generating employment opportunities, raising the standard of living and reducing poverty (Nasir, Iqbal, & Akhtar, 2019). When it comes to uplifting the economy of developing countries, entrepreneurship plays a pivotal role by making a major contribution to the society and economic development. Globalization and societal advancement has resulted in the visibility of women in the entrepreneurial world (Sarada Ramesh, 2013). Although women entrepreneurs are stepping out to the job market and making an effort to grow their enterprises in order to become independent (Sarfaraz, Faghih, & Majd, 2014), but when it comes to

performance, they underperform in comparison to men because of several factors (Watson, 2002). Understanding how small and medium businesses perform well and what are the factors responsible for good performance of an enterprise has been an area of interest to both practitioners and researchers in the last few years (Oly Ndubisi & Iftikhar, 2012), and it has been found that among other factors, the entrepreneurial traits and innovation are one of the key factors which have an impact on the entrepreneurial performance.

Innovation is a process of creative destruction resulting in employment growth and technological changes (Schumpeter, 1934). It is considered to be the key element of organizational sustainability and regional advantage in the era of non-linear dynamics and rapid change (Chandra & Macpherson, 1994; Macpherson, 1992; Sharma, 2018;

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Suarez-Villa, 1991; Zhao, 2005). In order to pursue new market opportunities, entrepreneurs are putting in efforts to bring innovation in the products or services they are offering and in this way entrepreneurship is performing a crucial role in uplifting the economies (Sharma, 2018; Vivarelli, 2012). As far as the entrepreneurial traits are concerned, their relationship with the success of an enterprise has been investigated by prior studies. Researchers are of the view that personality traits like risk taking propensity and need for achievement have an impact on the performance of an organization and they are associated with the venture's success (Ismail, Husin, Rahim, Kamal, & Mat, 2018; Kiggundu, 2002; Robinson & Sexton, 1994). Developing and developed economies around the globe realize the fact that women's entrepreneurship can be successful in the wake of globalization if they keep on innovating their organizational processes by using their entrepreneurial traits. Theories related to the entrepreneurial traits and innovation have been put forward by the prominent researchers which emphasize that they help in achieving the entrepreneurial goals which lead to success and the entrepreneurial performance. The theory of risk taking propensity (Cantillon, 1775) considers entrepreneurs as risk takers and it is the risk taking propensity which differentiates entrepreneurs from employed workers and makes them successful. Later on, this theory was extended by Sexton and Bowman (1986) which gave this view that entrepreneurs are "moderate risk takers" and if they have strong belief to achieve their goals will perform well. An unpredictable and complex business environment has been observed in the last two decades, which is forcing organizations to differentiate themselves so as to achieve the competitive advantage. The resource-based view of the firms explains the theory of competitive advantage that by adopting innovation and using the capabilities and resources, an enterprise can achieve performance goals. Businesses are generating profits by capturing a greater market share and the competitive advantage through continuous efforts of innovation (Newbert, 2007; O'Regan, Ghobadian, & Sims, 2006).

Pakistan is a society where men are economically independent and have control over women. In an emerging and patriarchal society of Pakistan where women are restricted to staying at home and are responsible to looking after their families, entering the job market and starting their own businesses is a big challenge (Nasir et al., 2019). Women in Pakistan constitute nearly 50% of total population but still gender biases is there and share of women in labor force is very low. Other researches conducted on women entrepreneurs have been mainly centred on Europe where culture is individualistic contrary to Pakistan which is a collectivist country where people share strong ties. Although many other previous studies focus on the performance of women entrepreneurs, yet there is no specific study which validates it in Pakistan's context because of its unique culture. This study considers women's entrepreneurship in Pakistan, keeping in view its different socio-cultural environment. Although scholars have worked on several issues related to women's entrepreneurship in Pakistan which mainly revolve around gender based problems in a working environment (Mahmood, Sohail, Khalid & Babak, 2012) and women's empowerment (Rashid, 2011), but still there exist many other factors which affect the performance of women entrepreneurs where negligible attention has been given and the entrepreneurial traits and innovation is one of such factors whose impact on the performance of women-owned SMEs have not touched upon and is a rarely investigated topic. Very little is known on how innovation and entrepreneurship affect the entrepreneurial performance of women-owned smaller and medium-sized enterprises from emerging and male dominated society like Pakistan. Hence, this research is an effort to address this issue. The findings of this study will develop an attitude in women entrepreneurs to consider innovation as an ongoing process in SMEs which will assist in promoting women-based entrepreneurial culture in Pakistan. The mediating effect of innovation on performance has also been determined by various researchers (Gunday, Ulusoy, Kilic, & Alpkhan, 2011; Liao & Rice, 2010; Neely, Filippini, Forza, Vinelli, & Hii, 2001) but its role as a mediator on

women-owned businesses in Pakistan has not been explored by any study. Presently, indigenous research on innovation and the entrepreneurial traits affecting the performance of women entrepreneurs is needed, hence this study will be of great contribution to address this gap.

#### Research Objectives

The following are the research objectives of this study:

1. To examine the impact of the entrepreneurial traits (risk taking tendency and need for achievement) on the performance of women-based SMEs in Pakistan.
2. To examine the impact of innovation on the performance of women-based SMEs in Pakistan.
3. To analyze the mediating impact of innovation on the entrepreneurial traits and performance of women-based SMEs in Pakistan.

#### Literature review

Entrepreneurship represents the ability to capture ideas and convert them into products and services and taking them to the market (Johnson, 2001; McDougall & Oviatt, 2000). The concept of entrepreneurship was introduced by Richard Cantillon in 1775 which was later on dwelt upon by Ricardo, Adam Smith and Mill. Entrepreneurship plays a pivotal role in uplifting the economy of developing countries (Vasudevan & Paralkar, 2016). The economic development of a country is not possible without women. Women's participation and empowerment is an important tool for a country's development and entrepreneurship is the most suitable option available to them (Ismail et al., 2018). A woman entrepreneur is the one who faces all the risks to fulfill her needs to become independent (Nagarajan, 2016). Women entrepreneurs are defined as "the ones who develop new businesses and actively participate in running their ventures which can either be in a formal way where businesses are registered or in an informal way where businesses are not formally registered" (Rashid, 2011). Women's entrepreneurship is not a new concept. Women before 20th century had their small and medium-sized businesses to reduce poverty (Nasir et al., 2019). Women's entrepreneurship paves way for other women by giving them job opportunities and raising their standard of living.

Pakistan is a developing country which has a population of nearly 207 million out of which women are nearly 50% but the economic participation of women is very low as compared to men due to a large gender inequality. According to the Global Gender Report 2018 (released by World Economic Forum) out of 149 countries, Pakistan ranked at 148th position in terms of gender parity. Pakistan has the lowest rate of female entrepreneurship in the world because of many socio-cultural factors. When it comes to the performance of women-owned SMEs, women don't perform well and there are many factors that affect their performance (Nasir et al., 2019). The entrepreneurial traits and innovation are among those whose details are given below:

#### Entrepreneurial traits and innovation

There are several challenges that are faced by entrepreneurs while carrying out the entrepreneurial activities and it is their psychological abilities that help them to deal with these challenges in order to perform well (Robinson & Sexton, 1994). Risk taking ability and high need for achievement are the entrepreneurial traits which help an entrepreneur to move forward and achieve the venture's goals. Risk taking propensity reflects an ability to take bold steps by venturing into new markets and investing resources having uncertain outcomes (Antoncic et al., 2018; Lumpkin & Dess, 2001). The review of the literature has found a lot of studies where researchers have considered risk taking ability as an entrepreneurial trait (Antoncic et al., 2018; McClelland, 1965; Morris, 1998; Welsh & White, 1981) and it distinguishes an entrepreneur from a manager and an employed worker (Mill, 1984).

Entrepreneurs are perceived to undertake financial risk, business risk and personal risk under identical situations (Dess & Lumpkin, 2005; Tsui, 1993).

The other psychological trait that helps an entrepreneur to deal with the challenges is the need for achievement. Need for achievement represents a psychological force which is significant in shaping the behavior of entrepreneurs (McClelland, 1965). This force motivates an individual to compete in the activities that are important for him. It can be extrinsic (force exerted by others' expectations) or intrinsic (an internal force which compels a person to do a certain action). Entrepreneurs are always aspired to achieve success (Hasan, 2016; Hassan & Nahia, 2016; Norr, Ezlika, & Ong, 2004). According to Johnson (1990) and Shaver and Scott (1991), out of twenty three studies, twenty showed an association between need for achievement and entrepreneurship.

#### *The entrepreneurial traits and performance*

Existing literature finds that entrepreneurship leads towards successful innovation when it is matched with market oriented culture and entrepreneurs know how to deal with challenges using their traits (Oly Ndubisi & Iftikhar, 2012; Slater, 1997; Thomassen, Løje, & Basaiawmoit, 2018). Two pivotal entrepreneurial traits affecting innovativeness are risk taking ability of an entrepreneur (García-Granero, Llopis, Fernández-Mesa, & Alegre, 2015; Llopis, García-Granero, Fernández-Mesa, & Alegre, 2013) and high need for achievement (Nasution, Mavondo, Matanda, & Ndubisi, 2011). People having high need of achievement represent those who are innovative and they make goals and do efforts to achieve them by performing well (Littunen, 2000; Skinner & Drake, 2003; Utsch & Rauch, 2000; Wärneryd, 1988) and such people represent the ones who are entrepreneurs (Carragher, Buchanan, & Puia, 2010; Hansemark, 1998). The other traits i.e., risk taking propensity of an entrepreneur helps him to innovate his existing products and services by taking calculated level of risk. Hence, this risk taking entrepreneurial quality has a significant impact on diffusion and innovation of the venture (Oly Ndubisi, Gupta, & Ndubisi, 2005; Nasution et al., 2011; Oly Ndubisi & Iftikhar, 2012; Linton, 2019).

There a lot of studies which show the performance of an enterprise is dependent on risk taking ability (Danso, Adomako, Damoah, & Uddin, 2016; Pratono, 2018) and the need for achievement (Stewart Jr, Watson, Carland, & Carland, 1999). The strong belief of an entrepreneur in his abilities to achieve the targets by taking risks makes him successful (Amit et al., 1993; Dewan & Ren, 2007) and high need for achievement motivates a person to achieve the set goals and succeeds in competition by performing well (Antoncic & Antoncic, 2018; Begley & Boyd, 1986; Johnson, 1990; McClelland, 1961; Wu, 2007). Hence, these studies support the reasoning that the entrepreneurial qualities like risk taking propensity and high need for achievement have a direct impact on the entrepreneurial performance.

Although the work of prominent scholars reveals that the entrepreneurial traits lead to the better performance outcomes and have an impact on innovativeness but these studies are not focused on women entrepreneurs and are mainly from the West. This study fills this gap by analyzing the association of personality traits i.e., tolerance of ambiguity and risk taking propensity of women entrepreneurs on innovation and performance in a developing country like Pakistan. Hence the study tests the following hypotheses:

- H1. Risk taking is positively related to innovation.
- H2. High need of achievement is positively related to innovation.
- H3. Risk taking is positively related to performance.
- H4. High need for achievement is positively related to performance.

#### *Innovation*

Innovation is defined by authors in many ways. While Cumming (1998), considers it as creating new products and process, Knox (2002), looks at it as a unique way to deliver better value or quality. For others, innovation represents creating a novel idea or knowledge (Cooper, 1998)McAdam, Armstrong, & Kelly, 1998; Rexhepi, Abazi, Rahdari, & Angelova, 2019; Sundbo, 1998; Urabe, Child, & Kagono, 1988). Hence innovation is multidimensional and has got several facets. The economics of innovation has been a centre of attraction in the recent years by many researchers (Arora, Fosfuri, & Gambardella, 2004; Emami & Dimov, 2017; Grupp & Maital, 2001; Stoneman, 1995). The fundamental theory on economics of innovation has been summarized by Sundbo (1998), which focuses on the entrepreneur's paradigm. The *entrepreneur's paradigm* is associated to 1930 with Schumpeter when he established a connection, in theory between an entrepreneur and innovation and considered entrepreneur as an innovator. Under this paradigm, an entrepreneur is given importance in the innovation process where he represents a person who develops a new venture based on a new idea and perceive it as availing an opportunity (Bygrave, 1989; Drucker, 1998; Kanungo, 1999; Johnson, 2001).

Innovation is associated with the better performance of an enterprise. Resources combined with innovation make firms successful leading to a competitive advantage and superior performance (Hurley & Hult, 1998). Superior performance is measured in terms of increase in sales, market expansion and number of employees (Brush & Vanderwerf, 1992). The firm's performance is facilitated when it offers innovative products which create new demand in the market. Econometric explorations of survey data (2001) add empirical knowledge to the relationship of innovation and performance (Kleinknecht & Mohnen, 2001). The survey concludes that innovative enterprises earn significantly higher profits and growth in comparison to the ones which don't innovate themselves (Diederer, van Meijl, & Wolters, 2002) and that there is a positive impact of innovation on profits (Arvanitis & Hollenstein, 2002; Favre, Negassi, & Pfister, 2002; Klomp & Van Leeuwen, 1999; (Park, 2018)). When it comes to performance of women-owned enterprises, it is found that women are disadvantaged at getting access to financial and human resources leading to their underperformance (Booden Jr & Nucci, 2000). They also don't prefer to bring innovativeness in the products and services that they offer in the market also leading to the low performance of their ventures (Maarlow & Strange, 1994). Despite underperforming than men, women have still been emerging as entrepreneurs around the globe to become independent and get social status like men (Rosa, Carter, & Hamilton, 1996).

Although the literature cited above shows that the impact of innovation on the entrepreneurial performance has been investigated by prominent researchers but its impact on women-owned Pakistani SMEs in a restrictive socio-cultural society has not been touched upon by any study. Moreover, several studies determine the mediating role of innovation on performance (Gunday et al., 2011; Liao & Rice, 2010; Neely et al., 2001; Sajilan & Tehseen, 2019) and the role of entrepreneurial traits like risk taking ability (García-Granero et al., 2015; Llopis et al., 2013) and high need for achievement (Nasution et al., 2011) in studying innovativeness but its role as a mediator on women-owned businesses in an emerging society of Pakistan has not been explored yet. This study is novel in the sense that it attempts to determine the impact of innovation and its role as a mediator on the entrepreneurial traits and performance of women in a restrictive socio-cultural society of Pakistan where women are bound to looking after their homes and opening a venture is a big challenge for them Figure 1 The results of the above-cited studies cannot be validated in Pakistan because it is a collectivist country where people share strong ties and it's a patriarchal society. Prior studies on women led SMEs have majorly been conducted in the West whose culture is individualistic and where the society doesn't look down upon a woman goes into

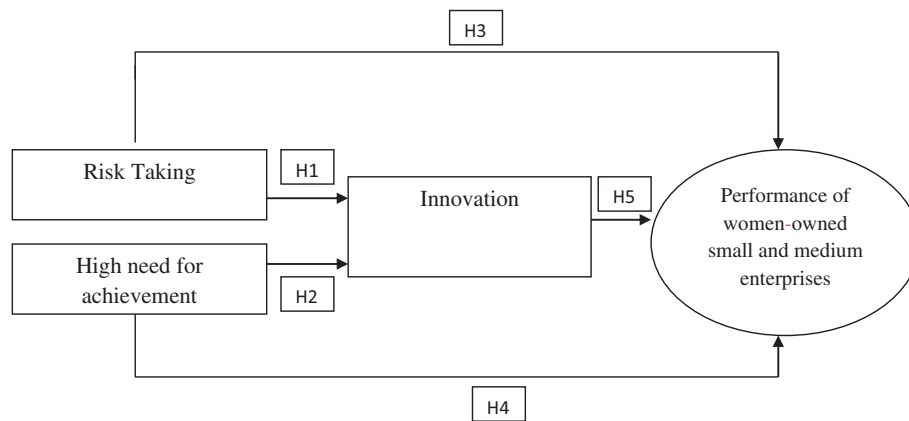


Fig. 1. Schema of the research model.

entrepreneurship

**H5.** There is a significant relationship between innovation and performance. (Bygrave, 1989).

**H5a.** Innovation mediates the association between risk taking and performance.

**H5b.** Innovation mediates the association between need for achievement and performance.

## Methodology

### Research philosophy

This study is based on positivism philosophy which makes use of a quantitative approach. It uses a deductive approach where the hypothesis is deductive from theory and then expressed in operational terms, a large number of sample is drawn and tested and the hypothesis is then accepted or rejected. If required, modification is made in the theory. The preceding paragraphs will make it clear how this study falls under the positivist research paradigm.

### Research design

This quantitative study employed inferential statistical analyses in determining the characteristics of the respondents. Multiple regression analyses were used for analyzing the relationship between entrepreneurship, innovation and the entrepreneurial performance of women-owned businesses. Version 20 of Statistical Package for the Social Science (SPSS), was used for analyzing the data.

### Research population

The population for the present study comprises women entrepreneurs who have been running their businesses on small and medium level for more than five years and are registered with the Women Chambers of Commerce and Industries of Pakistan. SMEs have been selected on the basis of the definition by SMEDA, 2010 that small enterprises are the ones who have an employee size of 35 downward whereas medium are the ones having 36–250 employees. 752 registered women entrepreneurs all the women's chambers of commerce of Pakistan were selected on the basis of a list provided by the Trade development authority of Pakistan (TDAP) which served as a sample frame for the study.

### Sample size determination

The sample size was determined using Yamane's formula (Yamane,

1967) for a finite population. The sample size of 261 was obtained. Respondents from the chambers were selected by using Stratified Random Sampling in order to ensure the true representation of the entire population.

### Instrument and measurement

In order to collect data from the respondents, self-administered questionnaire was used. Likert scale was used in order to indicate the respondents' level of agreement or disagreement. Scale items were adopted from prior studies. For innovativeness, some questions were made whereas few were adopted from the scale developed by Ullah et al. (2011). For measuring performance, the scale by Brush and Vanderwerf (1992) was utilized which includes the market expansion, growth in annual sales, number of employees, number of products/services and employees' satisfaction. The measure of entrepreneurship consisted of two components: risk taking and the need for achievement. Risk taking propensity was measured on the scale developed by Bezzina (2010) while for the need of achievement, the scale by Ullah et al. (2011) was used.

The orthogonal factor rotation approach was used for factor analysis in order to establish the suitability of the questionnaire items for multivariate analyses. The Hierarchical Multiple Regression Model was used where the predictor and mediator variables were entered at different stages so that an increase in  $R^2$  could be examined by the inclusion of predictor variables. Innovation as a mediator was assessed on the basis of the method by Baron and Kenny (1986).

## Results

### Descriptive statistics

Table 1 presents the descriptive statistics of the variables which indicates that the response of the respondents was close to an agreement as the mean score shows the values < 4.

### Factor and reliability analysis

Factor analyses revealed that 18 items loaded on four factors have a

**Table 1**  
Descriptive statistics.

	N	Min	Max	Mean	SD
Risk taking	261	1.00	5.00	3.58	1.00
High need for achievement	261	1.11	5.00	3.22	0.845
Innovativeness	261	1.00	4.80	3.31	0.800
Entrepreneurial performance	261	1.78	5.00	3.26	0.755



**Table 2**  
Factor loadings and reliability estimates.

Key dimensions and items	Loadings	Communalities	Cronbach's Alpha
<i>Risk taking (Eigen value = 2.316; variance = 12.189)</i>			0.874
RTT1- I trust that I get high rewards when I take high risks.	0.746	0.823	
RTT2- I repeatedly take calculated risk for gaining potential benefit.	0.863	0.767	
RTT3- I'm ready to invest a lot of my own capital for taking a business opportunity.	0.880	0.825	
<i>Need for achievement (Eigenvalue = 4.178; variance = 21.988)</i>			0.738
NFA1- I am a high achiever.	0.821	0.775	
NFA2- I struggle for achieving distant goals.	0.826	0.739	
NFA3- I have a strong desire to complete difficult tasks.	0.788	0.698	
NFA4- I have a motivation to do something unique.	0.921	0.865	
NFA5- I make difficult goals and try to achieve them.	0.870	0.833	
<i>Innovativeness (Eigen value = 3.278; variance = 23.963)</i>			0.745
INN1- I am always in the middle of launching a new project.	0.857	0.747	
INN2- I am quite interested in search of discovery.	0.793	0.634	
INN3- My business has launched several new products and services over the last years.	0.784	0.667	
INN4- My enterprise focuses on research and development.	0.752	0.696	
INN5- I make improvements in the existing products or services.	0.727	0.668	
<i>Entrepreneurial Performance (Eigen value = 3.039; variance = 27.788)</i>			0.737
EP1- Number of employees has increased in last five years.	0.739	0.546	
EP2- Growth in Annual Sales has increased in the last five years.	0.905	0.818	
EP3- Market Expansion has increased in the last five years.	0.597	0.357	
EP4- Number of Products/Services has increased in the last five years.	0.849	0.721	
EP5- Employee's satisfaction has increased in the last five years.	0.773	0.598	

Total variance = 86%.

KMO = 0.915.

Approx.  $\chi^2 = 3388.82$ .

df = 0.562.

sig = 0.000.

total variance of 86%. Acceptance of factor loadings of 0.50 and above is derived from the parsimonious sets of variables (Hair, Anderson, Tatham, & Black, 1998). Table 2 illustrates that all the variables have high communality values which indicate the validity of the constructs. Likert scale was used for generating responses. This scale indicates the level of agreement or disagreement (strongly disagree (1), disagree (2), undecided (3), agree (4), strongly agree (5) for every statement).

Table 2 further shows the reliability statistics of the research instrument. The coefficient value of 0.6 or less indicates unsatisfactory internal consistency reliability, whereas it is considered reliable if the value is  $> 0.60$  (Malhotra & Birks, 2007). The value of Cronbach's Alpha in the present study is over 0.60 which means that reliability is achieved.

#### Tests for association

##### Predicting innovation as a direct relationship

Table 3 presents the results of regression analyses according to which the entrepreneurial traits i.e. risk taking and the need for achievement have a significant impact ( $F = 8.34$ ;  $p = 0.000$ ) on innovation. Furthermore, 6% of variations in the overall innovation is explained by these traits in women-owned businesses in Pakistan. Table 3 further shows that at 0.1% significance level, there is a significant relationship between risk taking ( $p < 0.001$ ) and the need for achievement ( $p < 0.001$ ) and innovation. These findings lead to accepting H1 and H2.

The results in Table 4 indicate that risk taking and the need for achievement have a significant impact on performance ( $F = 128.6$ ;  $p$ -

**Table 3**  
Entrepreneurship as a predictor of innovation.

Entrepreneurship variables	Beta coefficients	t-value	Sig
Risk taking	0.178	3.68	0.000
Need for achievement	0.168	2.89	0.004
Notes: $R^2 = 0.061$ ; $F = 8.34$ ; Sig = 0.000			

**Table 4**  
Entrepreneurship as predictors of the entrepreneurial performance.

Entrepreneurship variables	Beta coefficients	t-value	Sig
Risk taking	0.316	7.44	0.000
Need for achievement	0.609	14.96	0.000
Notes: $R^2 = 0.499$ ; $F = 128.6$ ; Sig = 0.000			

value = 0.000) and explain 50% of the variations in the entrepreneurial performance of the enterprises. In addition to that, the results reveal that at 0.1% significance level, there is a significant relationship between risk taking ( $p < 0.001$ ), need for achievement ( $p < 0.001$ ) and performance. Hence H3 and H4 are accepted.

##### Direct & mediating effect of innovation

Table 5 presents two models. Model 2 observes a direct impact of innovation ( $p < 0.001$ ) on the entrepreneurial performance, which accepts H5 that innovation enhances the performance of SMEs owned by women.

The effect of innovation as a mediator in the relationship of entrepreneurship with the entrepreneurial performance has been examined and is derived from Baron and Kenny's (1986) recommendations. According to them, a variable acts as a mediator when it fulfills the given conditions below:

**Table 5**  
The mediating effect of innovation.

Independent variables	Model 1 Regression without innovation B (p-values)	Model 2 Regression with innovation B (p-values)
Risk taking	204 (0.000)	0.172 (0.000)
High need of achievement	607 (0.000)	0.583 (0.000)
Employees performance	$R^2 = 0.692$	0.143 (0.000)
Notes: $R^2$ change = 0.499; $F$ change = 30.69; Sig = 0.000		$R^2 = 0.706$

- a) When the variations in the levels of IV significantly explain variations in the presumed mediator.
- b) When the mediator significantly accounts for variations in DV.
- c) The prior significant relation between IV and DV is no more significant when (a) and (b) are controlled,

Table 5 shows that innovation acts as a mediator as it is mediating the relationship of risk taking, need for achievement and the entrepreneurial performance. The regression results show that there is an increase in  $R^2$  (coefficient of determination) about 18% from Model 1 to 2. Also, the beta coefficients have significantly decreased from Model 1 to 2 for risk taking and the need for achievement. Hence the mediating effect of innovation is explained by a decrease in beta coefficients and an increase in  $R^2$ . H5a and H5b are accepted.

## Discussion

The model developed in the present study has been derived from previous research and theories. Innovation and entrepreneurship theories (Barneey, 1991; Nasution et al., 2011; Newbert, 2007; Wernerfelt, 1984), had provided strong points in order to understand the relationship among innovation, entrepreneurial traits and performance in women-based SMEs of Pakistan. The results substantiate the results of a large number of previous studies (Amit et al., 1993; Antoncic & Antoncic, 2018; Begley & Boyd, 1986; Danso et al., 2016; Dewan & Ren, 2007; Johnson, 1990; McClelland, 1961; Pratono, 2018; Stewart Jr et al., 1999; Wu, 2007) and asserts on the fact that both innovation and entrepreneurship are pivotal for the better performance of SMEs. The outcomes reveal that there is a significant impact of the entrepreneurial traits like risk taking and the need for achievement on the entrepreneurial performance for women-owned enterprises in Pakistan. The results provide an interesting fact that in a patriarchal society of Pakistan where it is considered bad if a woman steps out of her home to earn money, women prefer to take risks and have a strong desire to achieve their goals by facing all the hurdles. These are the traits that make them successful in the entrepreneurial world and lead to better performance. The results further reveal that not only innovation has a direct association with performance but also it mediated the relationship between risk taking, need for achievement and the entrepreneurial performance. The study substantiates the results of previous studies that innovation affects the performance of an enterprise (Arvanitis & Hollenstein, 2002; Favre et al., 2002; Kleinknecht & Mohnen, 2001; Klomp & Van Leeuwen, 1999). The results rejects the notion of considering women as unproductive (Maarlow & Strange, 1994). Pakistani women entrepreneurs prefer to bring innovativeness in the products they offer and hence perform well. Hence innovation plays a crucial role in successfully running the SMEs.

## Implications

When it comes to women to participating in the business world, there are several hurdles faced by them. They don't have similar prospects as men because of male dominance and cultural values in the society (Roomi & Parrott, 2008). Pakistan is also a patriarchal society where men are believed to be better than females and that they have inborn higher capabilities than females hence (Diederer et al., 2002) females are best regarded as manning the homefront. This commonly held notion can be dealt with policy interventions where Pakistan's government should encourage the participation of women in the business world by initiating women's entrepreneurship assistance programs. Previous studies (Borchert & Ibeh, 2008; Gençtürk & Kotabe, 2001; Shamsuddoha, Yunus Ali, & Oly Ndubisi, 2009) have proven that government support programs are beneficial in order to enhance the performance of small and medium businesses. In Pakistan, government programs can help women in participating in the entrepreneurial activities by making sure that fair competition exists between men and

women, improving the attitudes of women towards the entrepreneurial activities by giving them special grants and giving training via women chambers (Ndubisi & Iftikhar, 2012). It will help them in improving their business performance by gaining a better understanding of the local and international market needs and devising effective strategies accordingly.

## Future research

The present study is limited to only the women entrepreneurs that are registered with Pakistani women chambers of commerce and industries. There are several other women entrepreneurs who are associated and linked with federations and different women's business development centers that have not been considered in the population. In the future, research studies that focus on women entrepreneurs registered with such institutes should be carried out for generalization of the results. Furthermore, research is needed, which will investigate the relationship among entrepreneurship, innovation and performance on Pakistani registered and non-registered female entrepreneurs.

## Conclusion

For a developing country like Pakistan where there are a very small number of women-owned businesses, the challenge faced by SMEs is how to bring innovation in the existing products and services. In order to survive and remain profitable in existing markets, women entrepreneurs can perform well by differentiating themselves from others through innovation. The present study has shown that both innovation and entrepreneurship have an impact on performance and innovation acts as a mediator between these two hence women entrepreneurs must strive hard to improve their performance by focusing more on traits like risk taking and need for achievement.

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