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Factors affecting "entrepreneurial culture": the mediating role of creativity

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Abstract

Entrepreneurial culture has been an area of worth investigation in management research for many years since the growth in technology-based business ventures. In the context of businesses, entrepreneurial culture may be described as attitudes, values, skills, and power of a group or individual working in an organization that is characterized by risk. The prime purpose of this study is to examine the effect of openness to change and self-efficacy on entrepreneurial culture with the mediating role of creativity. We have used innovative culture as a substitute to measure the entrepreneurial culture of an organization due to its prognosticator power. Self-administered questionnaires were distributed through physical channel among employees of various firms engaged in the information technology business. Specifically, we collected data from all registered firms in the capital city of the Province Punjab, thus making an overall sample size of 300 and useable questionnaires that were returned filled for analysis were 225 (useable response rate 75%) employees of various private firms. For the analysis purpose and to explain the relationships among variables and mediational effects, we have used SPSS and AMOS for SEM. The findings clearly report that there are significant direct relationships among variables such that openness to change and self-efficacy have a positive impact on entrepreneurial culture, as well as in the presence of creativity as a mediator. The limitations of this study have been discussed with its theoretical and practical contribution. Future researchers can focus on longitudinal study and use qualitative methods for in-depth knowledge along with other variables in order to measure entrepreneurial culture in a broader way.

Keywords: Entrepreneurial culture, Openness to change, Self-efficacy, Creativity, Innovation

Introduction

Since the last few years, entrepreneurial culture has been appearing as a highly noticeable concept in management literature. Entrepreneurial culture has been defined as the attitude, values, skills, and power of a group or individuals working in an institute or an organization to generate income. One must notice that while considering entrepreneurial culture in an organization, innovation is one of the most important elements for its growth and success, so research on the subject is specifically needed in the entrepreneurial context (Kang, Matusik, Kim, & Phillips, 2016). The basic purpose of this study is to measure the openness to change and self-efficacy effect on the entrepreneurial culture with a mediating role of creativity. Many researchers have studied such type of culture from various perspectives, and in this study, the theoretical construct resembles with the Schein's (1985) prototype of organizational culture. Furthermore, the culture created by the entrepreneur is

decisive because such type of culture is characterized by innovativeness and creativeness (Burnes, 1996; Kao, 1989; Nystrom, 1990; Pohlmann, Gebhardt, & Etzkowitz, 2005).

Schein (1985) describes that culture in an organization consists of an arrangement of shared, taken-for-granted expectations which can be held by the participants of the institute and imparted to the new and recent participants. In a given context, self-efficacy or self-confidence is based on perceptions of individuals of their expertise and capabilities so that it shows a personality's secret thoughts on whether they have the capacities to perform different tasks assigned to them or not (Bandura, 1997). Although research work on openness to organizational change is infrequent, Miller, Johnson, and Grau (1994) theorized openness to organizational change in the following ways: (1) willingness to support the change and (2) positively upset about the potential effect of change. According to their findings, openness to changes that is being planned by a firm is an "essential primary condition for successful planned change."

Information and communication technology-based firms are prone to change because most of the innovation and creativity has been observed in these firms; hence, researchers are curious to know whether creativity mediates the relationship in an entrepreneurial culture measured through innovative culture. So, we selected registered IT firms based on information technology due to following reasons: (1) their primary focus is to assure high-quality reassurance as well as governing standards for software development and its focus on innovation and creativity. (2) Their existence is characterized by the highest level of quality software products and services globally that meet customers and user needs, by maintaining their human resources as their principal asset and being responsive to market expectations. We want to know whether creativity mediates the relationship in an entrepreneurial culture as we are measuring it as an innovative culture. The main purpose of this study is to examine the effect of openness to change and self-efficacy on entrepreneurial culture with the mediating role of creativity where entrepreneurial culture is measured through innovative culture.

The specific objectives of this research are as follows:

1 To find the impact of openness to change on entrepreneurial culture
2 To find the impact of self-efficacy on entrepreneurial culture
3 To find the mediating role of creativity in the relationship between openness to change and self-efficacy with an innovative culture

Literature review

Entrepreneurial activity is accelerated by higher self-efficacy (Carsrud, Brannback, Elfving and Brandt, 2017), but the effect can be inconclusive, and it may or may not always affect performance positively. The recent studies construe that there is a significant positive relation between growth and self-efficacy (Baum, Locke, & Smith, 2001; Baum & Locke, 2004). The firms which are low in entrepreneurial self-efficacy tend to grow slowly and less profitable as compared to the firms in which higher entrepreneurial self-efficacy is observed (Hmieleski & Baron, 2008).

In a given context, self-efficacy or self-confidence can be defined as self-perception of individuals in keeping with their expertise and capabilities. According to this conception, perception indicates an individual's private opinions, either they have the abilities to perceive themselves whether these are important to task routine or not, as well as,

the belief that they shall be able to effectively translate those skills into a chosen outcome (Bandura, 1997). A high level of self-efficacy is achieved through repeated performance accomplishments and the overcoming of obstacles through effort and perseverance (Wood & Bandura, 1989). Two major aspects of self-efficacy have been seen that are task- and domain-specific (Bandura, 1997). We can say that a person has high self-efficacy in one area but low self-efficacy in another. Self-efficacy diverges in imperative ways from the concept of "locus of control." Mediating roles of self-efficacy have been analyzed by different studies on performance (Luthans & Ibrayeva, 2006, Limited, 2019). The culture, which the entrepreneurs create, plays a vital role because the culture of an organization is firmly connected to innovativeness and creativeness (Nystrom, 1990; Kao, 1989; Burnes, 1996; Pohlmann et al., 2005). A business-minded person, playing the role of introducers, is dominant in developing and promoting innovation and creativity at work (Shalley & Gibson, 2004).

In their research, Vecchio (2003) reported that business-minded persons are so much confident about their skills and abilities that they overestimate the chance of their success. Thus, the entrepreneurs become deprived of understanding and making effective decisions as the objectivity for the need of change is overcome by the subjectivity of ownership (Conger, 1990). More rottenly, openness to change may reduce in case of a strong relationship with one's business that acts as a barrier for those organizations which are questing for innovative variation. According to Bayraktar (2016), there is a positive relationship between openness to change and entrepreneurial culture.

There are many studies that analyzed the relationship of creativity on entrepreneurial culture; for example, Bayraktar (2016) found a positive relation of creativity and entrepreneurial culture. According to Hofstede (2001), culture can be described as a collective indoctrination of the awareness that has the power to differentiate the members of one group or set of people from another. Observing at the intrinsic features of the entrepreneur, ethnic minority entrepreneurship the whole thing recommends, cultural features of the entrepreneur including education, language, and religion play an important role in developing entrepreneurial abilities and contributing to the survival of the entrepreneur's business (Altinay, 2008). However, in the reported studies, the researchers did not investigate the combined effect of openness to change and self-efficacy on innovative culture and being creative as a mediator.

We have measured entrepreneurial culture as an innovative culture because innovation is considered to be a primary reason to start a business. There is always a motive to start a new business either it can be an opportunity to innovate or for introducing a new technology (Shane, Kolvereid & Westhead, 1991). But the most recurring reason to start a new business is the chance to innovate (Scheinberg & Macmillan, 1988; Blaise, Toulouse & Clement 1990). For a business to grow and to earn a profit, implementation of innovative behavior is important (Carland, Hoy, Boulton, and Carland, 1984). An innovator can be a successful entrepreneur because they introduce new technologies and produce new ideas. Entrepreneurs must possess such characteristics that include creativity and innovative behavior (Carland, 1984). Entrepreneurs who run business for the primary purpose of earning profit and growth of a business have a higher chance of innovation in business (Reynolds, 1987). According to Goldsmith and Kerr (1991), as compared to business students, more innovative behavior is seen in entrepreneurship students. Today, an enterprising attempt is regularly observed as incubators for product and market development

(Reynolds, 1987). The firms which have a major purpose of growth in the competition are considered to be more innovative on an individual basis rather than holding managerial positions. On the basis of foregoing arguments and in the light of our objectives, the following hypotheses emerged.

H1 There is a significant relationship between openness to change and innovative culture.
H2 There is a significant relationship between self-efficacy and innovative culture.
H3 Creativity mediates the relationship between openness to change and innovative culture.
H4 Creativity mediates the relationship between self-efficacy and innovative culture.

Methodology

The population for the study in hand was employees working in different IT firms of Lahore, which is the major city and capital of Punjab and the hub of the information technology business. We selected the sample size on the basis of the item to response theory, which includes employees of all registered IT firms in the capital city of Punjab Province, thus making an overall sample size of 300. Data was collected through questionnaires which were self-administered. Individual employees, managerial and non-managerial, were considered as a unit of analysis. Convenience sampling a kind of non-probability sampling was used, as the exact number of employees was not known. The useable questionnaires out of 300 were 225 which were retained for final analysis, thus making the response rate of 75%. In the final sample out of 225 respondents, 125 were females and 100 were males, 65 of the total respondents were married, and 160 were single whereas the highest response rate is 34.7% from the age group of 20–24. This profile shows that most of the employees are beginners so enthusiastic at the start of their career. SPSS was used for data entry and basic results while inferential analysis was done using AMOS 22 for structural equation modeling.

All the measures used in our study consisted of items with five-point Likert scales ranging from 1 = strongly disagree to 5 = strongly agree.

Measurements of variables

Self-efficacy

Self-efficacy is defined as a belief of an individual to be successful and to complete a task in some specific circumstances (Hodgkinson, 1992). Self-efficacy questionnaire was adopted from (Gaumer Erickson, Soukup, Noonan, & McGurn, 2016). The scale contains six items (such as “I can figure out anything if I try hard enough”).

Openness to change

Openness to change is described as an overall change in an organization with two aspects: first, the employees and managers are ready to support the change, and second, they have a positive attitude towards the results brought by change (Wanberg & Banas, 2000). Openness to change questionnaire was adopted from (Psycoaching, 2006). In this questionnaire, we choose ten items which are related to our study (such as “I have a constant need to learn”).

Creative behavior

Creativity is defined as one’s ability to produce novel and applicable ideas in any context (Amabil, Cont, Lazenby, & Herron, 1996). Creativity questionnaire was adopted

from (I-Create, 2011). The scale contains nine items (such as "I am able to achieve most of my personal goals at work").

Innovative culture

An organizational culture in which employees create and implement new ideas at work and suppress their interest in order to achieve organizational success (Montani & Boudrias, 2017). We are measuring entrepreneurial culture through innovative culture, and it is discussed in the literature review. Entrepreneurial culture defines how innovative an organization is (Ameisen, 2014). Scale of innovative culture is obtained from Scott and Bruce (1994). The scale consists of five items (such as "Innovation proposal are welcome in the organization").

Control variables

Age and gender were used as control variables. Figure 1 represents the demographic profile of respondents according to their gender and marital status. We can see 55.6% percent are females engaged in IT sector of Pakistan. On the other hand 71.1%

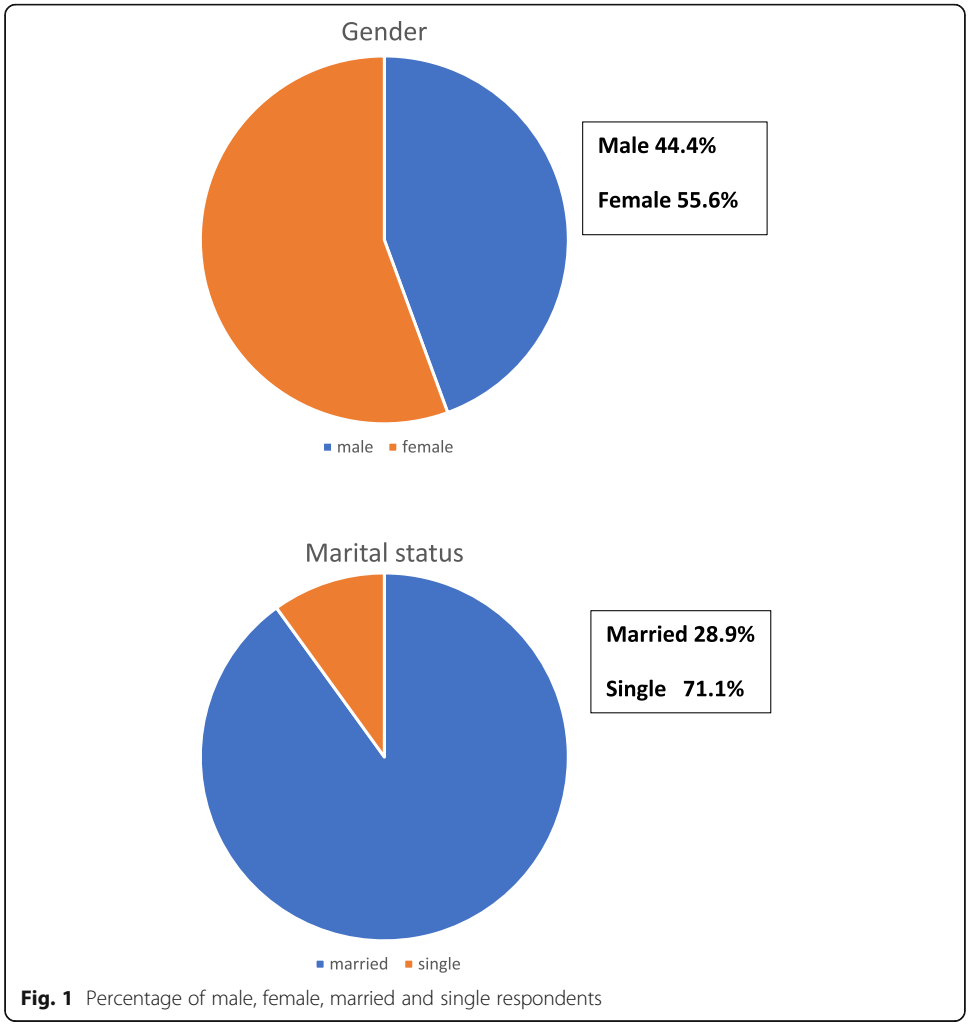

Fig. 1 Percentage of male, female, married and single respondents

respondents are single in IT sector which indicates that most of them are mid career or initiators in their jobs. It has been given in Fig. 1. On the other hand Fig. 2. represents the age of respondents in which we can see that respondents with highest frequency belongs to age group 20-24.

Results and analysis

Demographics

Correlation matrix

Table 1 shows a correlation among variables. Openness to change is significantly related to creativity at $r = 0.754$, so there is a highly significant linkage between openness to change and creativity. Openness to change is significantly related to the innovative culture at $r = 0.619$, so there is a highly significant linkage between openness to change and innovative culture. Openness to change is significantly related to self-efficacy at $r = 0.560$, so there is a highly significant linkage between openness to change and self-efficacy. Creativity is significantly related to the innovative culture at $r = 0.747$, so there is a highly significant linkage between creativity and innovative culture. Creativity is significantly related to self-efficacy at $r = 0.614$, so there is a highly significant linkage between creativity and self-efficacy. An innovative culture is significantly related to self-efficacy at $r = 0.653$, so there is a highly significant linkage between innovative culture and self-efficacy.

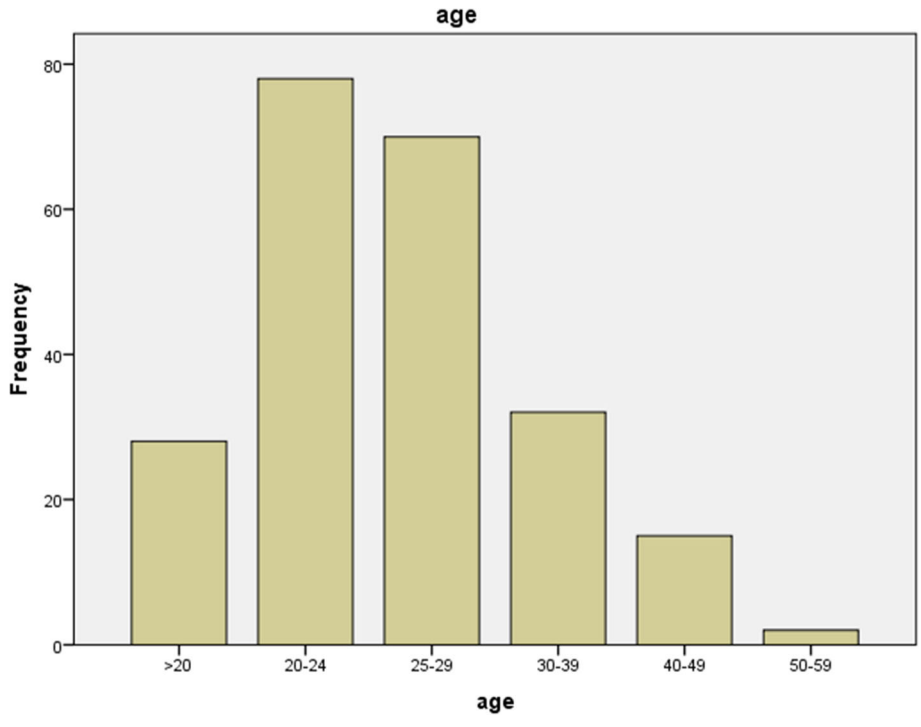

Fig. 2 Age of the respondents

Table 1 Correlation matrix

	1	2	3	4
Openness to change	1			
Creativity	0.754**	1		
Innovative culture	0.619**	0.747**	1	
Self-efficacy	0.560**	0.614**	0.653**	1

**Correlation is significant at the 0.01 level (two-tailed)

Measurement and structural model

We have developed and validated our measurement model that explores the relationship between the latent variables and their items of measure to test if our model is a good fit, and then, we ran our data on the structural equational model to see the relationship between latent variables. In order to perform structural equation modeling, there are two stages: first, we develop and validate the model in measurement modeling, and then, we ran the data on structural equational modeling. There were 34

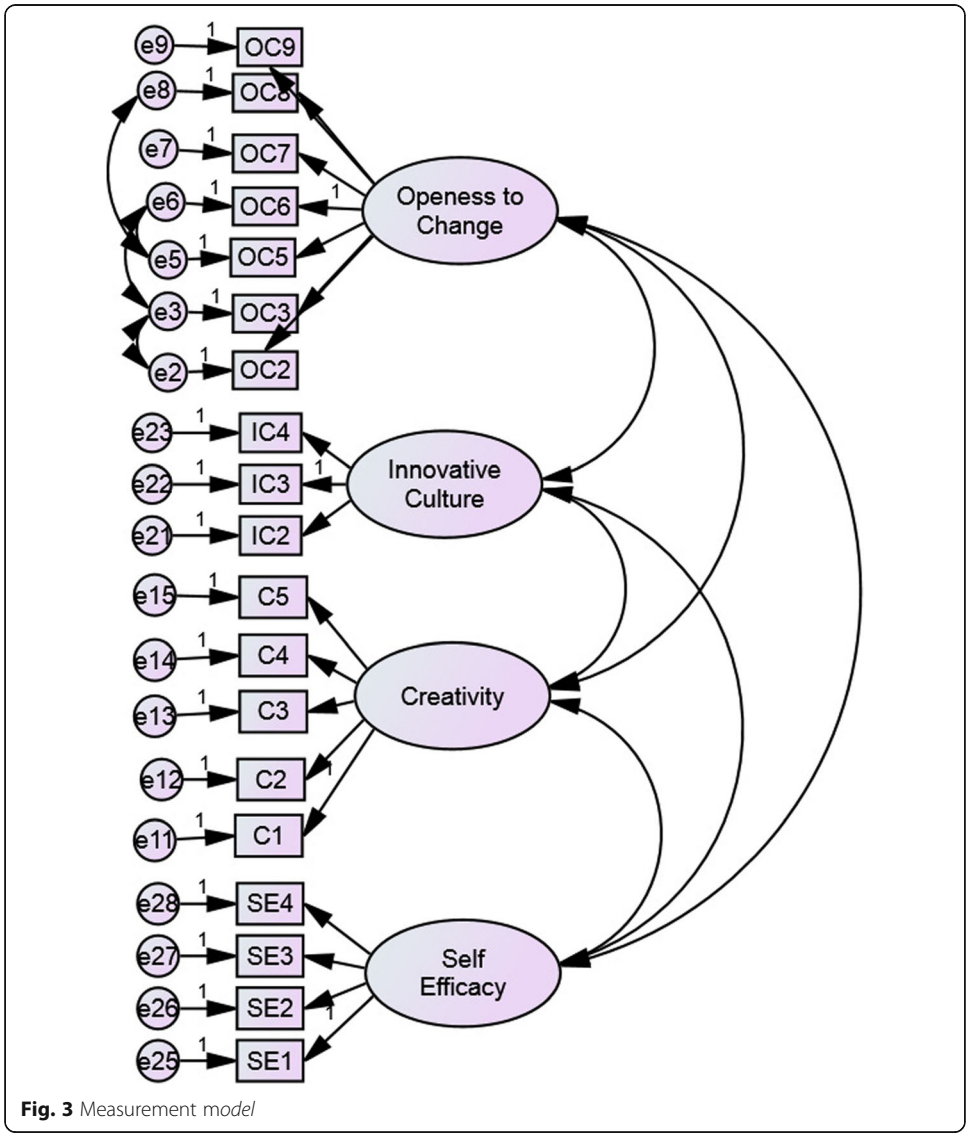

Fig. 3 Measurement model

questions in our model which were related to self-efficacy, innovative culture, creativity, and openness to change. In order to fit our model, we have removed some questions which have less value than 0.300 in standard regression weights. The model fit was tested by different fit indices such as GFI (goodness of fit index), CFI (comparative fit index), RMR (root mean square residual), IFI (incremental fit index), and root mean square error of approximation (RMSEA). Figure 3 shows measurement model. Our model was a good fit and acceptable as GFI = 0.896, CFI = 0.947, RMR = 0.050, IFI = 0.948, and RMSEA = 0.055 according to Hu and Bentler (1999). Table 2 shows the standardized regression weights.

Figure 4 represents Structural Model. Table 3 shows standardized regression weights. The values of the complete fit indices from the structural educational model specify an acceptable fit between our hypothetical model and sample data. Model fit was tested by different fit indices such as GFI (goodness of fit index), CFI (comparative fit index), RMR (root mean square residual), root mean square error of approximation (RMSEA), and IFI (incremental fit index).

Our structural model has achieved benchmarks of fit goodness and acceptable as GFI = 1.00, CFI = 1.00, RMR = 0.000, IFI = 1.00, and RMSEA = 0.000 according to Hu and Bentler (1999).

Table 4 shows Mediation results. The direct effect of openness to change on innovative culture without the presence of mediation is highly significant as its p value is 0.001, so our H1 is supported. The direct effect of self-efficacy on innovative culture without the presence of mediation is highly significant as its p value is 0.001, so our H2 is also supported. The standardized indirect effect of openness to change on innovative

Table 2 Standardized regression weights

			Estimate
OC5	<---	OC.	0.601
OC6	<---	OC.	0.563
OC7	<---	OC.	0.716
C2	<---	C.	0.630
C3	<---	C.	0.757
C4	<---	C.	0.705
C5	<---	C.	0.600
IC2	<---	IC.	0.693
IC3	<---	IC.	0.836
IC4	<---	IC.	0.763
SE2	<---	SE.	0.686
SE3	<---	SE.	0.674
SE4	<---	SE.	0.661
C1	<---	C.	0.646
OC9	<---	OC.	0.712
OC8	<---	OC.	0.800
OC3	<---	OC.	0.589
OC2	<---	OC.	0.645
SE1	<---	SE.	0.723

All factor loadings are greater than 0.30

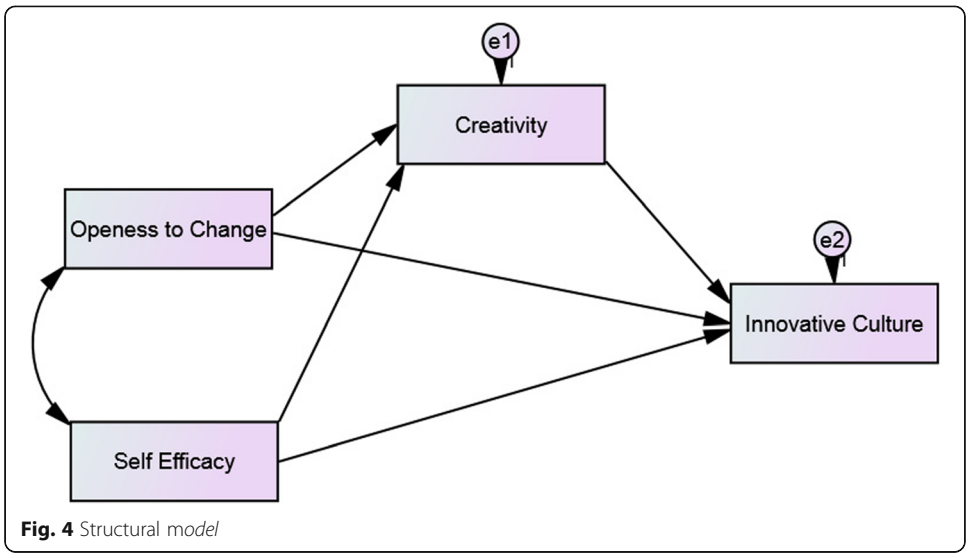

Fig. 4 Structural *model*

culture in the presence of mediation is highly significant as its *p* value is 0.001 and the standardized direct effect of openness to change on innovative culture in the presence of mediation is highly significant as its *p* value is 0.001, so it is a type of partial mediation as direct and indirect paths are significant. Our H3 is also supported. The standardized indirect effect of self-efficacy on innovative culture in the presence of mediation is highly significant as its *p* value is 0.001 and the standardized direct effect of self-efficacy on innovative culture in the presence of mediation is not significant, so it is a type of full mediation. Our H4 is also supported.

Discussion

There are many studies that analyzed the relationship of creativity on entrepreneurial culture, e.g., Bayraktar (2016) find a positive relation of creativity and entrepreneurial culture. Our result is similar to the previous study. More rottenly, openness to change may reduce in case of a strong relationship with one's business that acts as a barrier for those organizations which are questing for innovative variation.

Bayraktar (2016) has found that there is a positive relationship between openness to change in an entrepreneurial culture. Our result is similar to previous studies and is significant.

Entrepreneurial activity is motivated by higher self-efficacy (Carsrud, Brannback, Elfving and Brandt, 2017), but the effect can be different, and it may or may not always affect performance positively. Its results are very much alike with recent studies that there is a significant positive relation between growth and self-efficacy (Baum et al.,

Table 3 Standardized regression weights

			Estimate	*P*
C.	<---	OC.	0.950	***
C.	<---	SE.	0.158	***
IC.	<---	C.	0.888	***
IC.	<---	OC.	− 0.448	***
IC.	<---	SE.	0.876	***

Table 4 Mediation results

Hypothesis	Direct beta w/o med	Direct beta w/med	Indirect beta	Mediation type observed
Mediation OC-C-IC	− 0.448*	− 0.398*	1.154*	Partial
Mediation SE-C-IC	0.876*	0.668*	0.259*	Partial

*$P < 0.001$, *ns* not significant

2001; Baum & Locke, 2004). Our results are also similar to that study that there is a positive relationship between self-efficacy and entrepreneurial culture.

So H1, H2, H3, and H4 are accepted as we found a significant relation between self-efficacy, innovative culture, creativity, and openness to change.

Conclusions

The purpose of our study was to discuss the factors that affect entrepreneurial culture, so we have used openness to change and self-efficacy as factors that affect entrepreneurial culture and we have used a mediator which is creativity as to see whether it mediates the relationship. The findings clearly report that there is a significant direct relation among variables as openness to change and self-efficacy have impact on entrepreneurial culture without a mediator. There is a significant indirect relation as with the presence of mediator creativity. Our paper is not without any limitations as we have collected data from one company. We have used the questionnaire as the primary data collection technique; further research can use qualitative techniques also. We have measured entrepreneurial culture with a variable called innovative culture, but further research can use some other factors or variables measuring entrepreneurial culture. The items used in this study were less. We have used SPSS AMOS; further research can use some other software to discuss results. Researchers may also study the longitudinal effects of firms, as we have targeted the registered IT firms, so future research can be done on other industries like tourism and hotel management and automotive industry.

Limitations and recommendations

The limitations of this study can also be noted as there are many other factors and determinants which influence the entrepreneurial culture, and in this study, we discussed only two factors. In future studies, researchers can use some other data collection methods also (qualitative techniques), they can use some other variables related to personality and environment in order to measure entrepreneurial culture. Researchers may also study the longitudinal effects of firms, as researchers have targeted the IT firms, so future research can be done on other industries like tourism and hotel management and automotive industry.

Practical and theoretical contributions

The practical and theoretical contribution of this study is manifold. Specifically, it is helpful for such organizations that focus on creativity and IT firms and automotive industry are more prone to it. This study provides a guideline for entrepreneurs in their actions as they are the founders and protectors of the organizational culture. Employees

should focus on practicing and learning skills so that it would increase their self-efficacy and they could perform their tasks more effectively and efficiently. Seminars and training sessions should be provided to employees as it will also increase their self-efficacy. Suggestions of employees should be welcomed, and new ideas should be rewarded so that it creates an atmosphere of competition in an organization. Employees should be given a chance to participate in decision making for contributing towards their goals. Feedback and report of employee's bad or incorrect decisions should be inspected so that there is an opportunity of learning for them. Moderate challenges should be given to employees, so they would think out of the box and it will increase their creativity. Knowledge of employees should be updated as they must be familiar with new research in that area.

The theoretical contribution is also notable as we tried to fill the gap in the previous studies where the results were inconclusive and not decisive leaving a room for further confirmation. In the previous study, the researchers did not see the combined effect of openness to change and self-efficacy on innovative culture and being creative as a mediator. So, this study focuses on the process or mediational effects rather than direct mechanism.

Abbreviations

C: Creativity; IC: Innovative culture; OC: Openness to change; SE: Self-efficacy

Authors' contributions

This work was carried out in collaboration with all authors. All the authors contributed to the paper equally. The literature review, methodology, data analysis, discussion, and conclusion are written by RQD and JA. The introduction of the study, data collection, and formatting of the paper are done by ZA and HFA. All authors read and approved the final manuscript.

Availability of data and materials

The datasets generated and/or analyzed during the current study are available with the authors. The data was collected from the IT firms of Lahore, specifically, from Lahore. We use the primary source of data collection self-administered questionnaire.

Competing interests

The authors declare that they have no competing interests.

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