



## **Fostering Innovative Work Behaviour in SMEs Exploring Ecopreneurship Perspective**

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### **ABSTRACT**

The research analyzes the mediational impact of creative self-efficacy through which Ecopreneurship impacts the behaviors of employees at work. The discretion behind the research is founded on using Bandura's social learning theory and a mediation model is presented to show the innovative effects of Ecopreneurship on employees' Innovative Work Behavior (IWB) through the mediation of creative self-efficacy (CSE). The present research focuses on Innovation by developing a model that seeks to investigate the association among Ecopreneurship and Innovation Work Behavior in industrial SMEs of Pakistan for promoting the economic strength of the country. A framework has been developed comprising Creative Self-Efficacy as input. It is believed that unless SMEs emphasize Innovative Work Behavior, it is difficult to compete efficiently and gain higher economic returns. The nature of SME organizations is very dynamic, thus, particularly need to be innovative & creative to lead, nurture and compete in the industry. A questionnaire method has been used to collect the data; the unit of analysis is permanent workers from the industrial setups of SMEs in Pakistan. SPSS and AMOS have been used to analyze the data. The outcomes of the results show that Ecopreneurship stimuli Innovative Work Behavior via the mediation of CSE.



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## **1. Introduction**

In the current economic climate, the operations of small and medium-sized businesses (also known as SMEs) in Pakistan are not devoid of certain constraining obstacles originating from a variety of external elements that offer severe hurdles to their operational capacities, survival, and performance levels. Due to the obvious growing unpredictability of corporate settings, the heightened level of competition, and the rapid growth of technology, planned behaviors, and established processes are unable to provide the expected outcomes (Alfy & Naithani, 2021). Therefore, the movement of every business towards innovation becomes essential for organizations to adapt appropriately to the sudden adjustments that are occurring in their respective business environments.

The term "Innovative Work Behavior," abbreviated as "IWB," refers to how individuals and groups within an organization contribute to the overall innovativeness of that organization by introducing novel services/products, tasks, or work-related ideas. These contributions produce desirable results (Ansari, Farrukh, & Raza, 2021). IWB is of the highest significance for establishing a competitive edge in a business climate that is always shifting and unpredictable. According to Alheet, Adwan, Areiqat, Zamil, and Saleh (2021), the objective of the IWB is to improve both the general effectiveness and efficiency of the organization as well as its practices. IWB is essential because workers are the major source of innovation in any organization; inventive employees will contribute to the overall success of the organization. In light of the significance of IWB, organizations must encourage innovative behavior in their workforce if they want to thrive and survive in the increasingly competitive climate of the modern day.

The term "Ecopreneurship," which is also mentioned as "green entrepreneurship" (Tekleab & Taylor, 2003), is a mash-up of the terms ecological (eco) and entrepreneurship. It refers to the process of establishing a new business that provides environmentally friendly products and services (Chukwuka & MNIM, 2018). Ecopreneurship is also a kind of market alignment & value creation determined by environmental innovation, and product innovations, in which ecopreneurs find environmental advances and their market prospects in order to effectively transform them into new goods or services (Chaubey, Sahoo, & Khatri, 2019) (Chaubey et al., 2019).

The industrialization has attracted major attention in developing nations (Wang, 2016) and most economies are attempting to enhance the industrial sector's capacity in order to achieve the necessary economic development (Soomro, 2019). Despite its significance, it has received little attention in Pakistan. It is confronted with several issues, one of which is "innovation" Suleman, Bokhari, Zakaria, and Mohamad (2018). Pakistan is placed 131st out of 141 nations on the 2018 Global Innovation Index (GII) list of the world's most innovative countries. Nowadays, Pakistan's small and medium-sized enterprises are attempting to execute innovative methods for the purpose to compete in the global market. Nonetheless, this sector faces several obstacles, one of which being the industry's "Innovative Work Behavior."

According to Akbari, Bagheri, Imani, and Asadnezhad (2020), employees in Iranian high-tech ICT SMEs exhibited significantly more innovative work behavior when led by the entrepreneur's leadership. The study's limitations, however, include only looking at entrepreneurial leadership styles and a small sample of Iranian high-tech ICT SMEs. According to the results of Gashema (2021), Rwandan data led to the conclusion that transformational leadership traits have a major role in promoting creative work behavior within an organizational context. A study by Khan, Ismail, Hussain, and Alghazali (2020) shows that both transactional & transformational styles of leadership are effective in motivating innovative behavior in employees in Pakistani higher education institutions.

Literature shows that less empirical evidence is present in developing nations like Pakistan that have assessed the association between innovative working behavior of workers, and Ecopreneurship. Most research on Innovative Work Behavior & Ecopreneurship is undertaken in a range of organizational contexts throughout the globe, but there is no detailed study of Ecopreneurship & Innovative Work Behavior in Pakistan, particularly in the scenario of SMEs. Ecopreneurship practices adopted in SMEs are examined in order to decrease the gap. "People learn from other people's conduct and adapt their own behavior by it," is how the social learning theory is characterized (C. Huang et al., 2020). A model has been developed to test the effect of Ecopreneurship on Innovative Work Behavior in SMEs in Pakistan. This research essentially encompasses environmental practices and behaviors (i.e., new product development and waste management).

The focus of the study had remained to analyze the link between Ecopreneurship & IWB in SME workers and this relationship is mediated by CSE. Ecopreneurship in Pakistani SMEs has been shown to improve innovative work behavior by increasing employees' perceived levels of Creative Self-Efficacy.

## 1.1. Research Gap

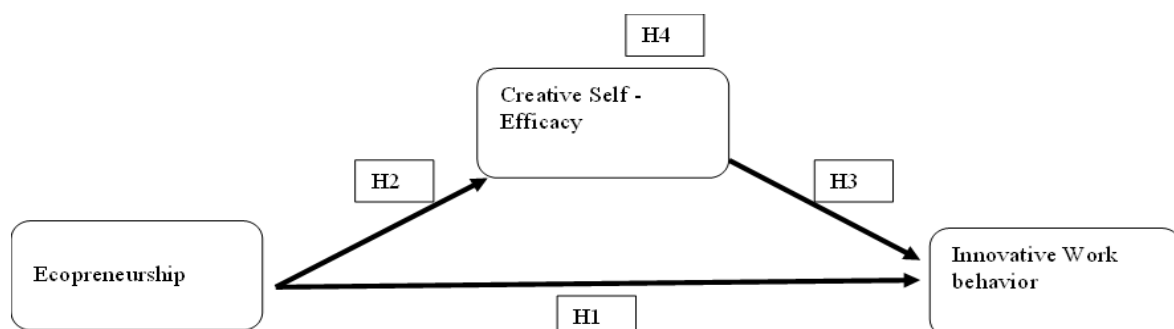
There have been very few empirical studies conducted in developing countries like Pakistan that investigate the connection between Ecopreneurship and employees' innovative work behaviors. Pakistan is one such country. There has not been a comprehensive study conducted on Ecopreneurship and innovative work behavior in Pakistan, particularly in the context of small and medium-sized enterprises (SMEs). The vast majority of research on Ecopreneurship and innovative work behavior has been conducted in a variety of organizational settings all over the world. This study looks at the Ecopreneurship strategies used by leaders of small and medium-sized enterprises (SMEs) to narrow the gap. According to the social learning theory, individuals "learn from the conduct of other people and adjust their own behavior in line with it." This is how the theory is characterized (Zahra, Ahmad, & Waheed, 2017).

Existing discussions on innovation have been applied to large-scale businesses (Shin & Zhou, 2003). On the other hand, there are few studies available that focus on innovation in the context of small and medium-sized businesses (SMEs). Studies have shown that small and medium-sized businesses (SMEs) play a significant part in the process of strengthening the economic standing of emerging nations. Due to the fact that SMEs are of strategic significance for developing economies, an in-depth research is essential in order to comprehend the part that IWB plays in the work of workers in SMEs (Martinez-Conesa, Soto-Acosta, & Carayannis, 2017).

Ecopreneurship in Pakistani manufacturing SMEs has been demonstrated to enhance creative work behavior by improving workers' felt levels of CSE. This is accomplished by fostering an environment that encourages risk-taking and experimentation. The primary objective of the research was to continue examining the connection between Ecopreneurship and IWB in employees employed by SMEs; this association is mediated by CSE. It has been shown that Ecopreneurship in small and medium-sized enterprises (SMEs) in Pakistan may promote innovative work behavior by elevating workers' perceived levels of their own creative self-efficacy. This work seeks to link how the relationship between Ecopreneurship and innovative work behavior in SME workers is mediated by creative self-efficacy, based on the discussion that was presented earlier. This is done in light of the problems that were presented earlier and because this work seeks to link how these problems can be solved.

## 2. Theory and Hypothesis Development

Bandura's theory of social learning provides the foundation for this line of inquiry, which is why this rationale is being conducted. This hypothesis states that "individuals adopt the behavior of others and adjust their own behavior to adapt to it" (Xie, Zhou, Xia, & Guo, 2019). With this in mind, the purpose of this research is to investigate how Ecopreneurship encourages creative work behaviors among workers of SMEs. In addition, according to Bandura's theory of social mental attitude, CSE is a significant aspect. CSE is also restoration or reenactment of Bandura's first study of societal education, therefore it may be thought of as a recreation of this research (Sasongko & Anggadwita, 2016). The discussion that has taken place up to this point implies that this research will also analyze how CSE mediated the link between Ecopreneurship and innovative work behavior. The framework for this study based on the key variables is displayed in Figure 1.



**Figure 1. Hypothesized model**

## **2.1. Innovative Work Behavior: Impact of Ecopreneurship**

In a society that is struggling to achieve social and economic progress while also making efficient use of natural resources and minimizing pollution at the same time, Ecopreneurship is a new area of study that is garnering a lot of attention. The purpose of this research is to ascertain the degree to which Ecopreneurship influences the innovative work behavior of small and medium-sized manufacturing businesses. The paradigm shift toward a more environmentally responsible way of doing business may be facilitated in large part by the emergence of Ecopreneurship as a significant driving factor. Since many prosperous firms are environmentally sensitive and continually seek for economic benefits by becoming green, more possibilities are created by environmentally responsible businesses. This is because environmentally conscious businesses provide more opportunities. There is a dearth of research done on the subject, even though eco-entrepreneurship in Pakistan should be encouraged and supported. The newly established companies in Pakistan need defined regulations and norms for environmentally responsible business practices, but they are not yet available. The future generations will need to have access to higher education and connection for Ecopreneurship to be successful (Shad, Kakakhel, & Zahid, 2019).

According to the findings of previous research by Zheng, Feng, Jang, and Chang (2021), employees play a significant part in the majority of the innovative activities that are carried out by firms. This is because employees process ideas as they are being generated and transform them into innovative outputs. According to the research of Stoffers, Hendrikx, Habets, and van der Heijden (2019), small and medium-sized businesses (SMEs) who want to acquire a competitive edge may consider looking at different methods to invest in the professional growth of their employees. Innovative behavior, as a single construct, is defined as the behavioral patterns of an employee focused on the development and implementation of novel ideas, adoption of new technologies, and environmental processes to achieve the desired objectives of the firm and improve performance in order to achieve substantial growth in competitive markets. Nurahmad, Hermanto, and Nurmayanti (2022) argued that workers' creative activity may aid in boosting the effectiveness of SMEs by beginning newness, adoption, and changed firm-based resources. This would be accomplished by the employees themselves initiating newness, adoption, and modifying firm-based resources. The inventive actions of workers are vital for small and medium-sized businesses to boost their chances of survival. According to Lecat, Beausaert, and Raemdonck (2018), creative behavior is likely to be connected to the production of new ideas, as well as the subsequent application of those ideas into new goods, processes, and services. As a consequence of this, small and medium-sized businesses (SMEs) need to dedicate a substantial number of resources and help to the development of creative concepts in order to achieve considerable growth.

According to Andersén and Ljungkvist (2021), environmentally friendly manufacturing processes are those that utilize less toxic chemicals as well as less energy and raw material than the same methods used by their competitors. Followers of Ecopreneurship are well aware of what is required of them and are willing to put forth any effort to assist the company in achieving its goals. As a consequence of this, they are consistently looking for new and inventive ways to approach their work, which is reflected in their inventive behavior. As a consequence of this, the following hypotheses are drawn:

H1: Ecopreneurship has a positive effect on Innovation Work Behavior

## **2.2. Ecopreneurship and Employees' CSE**

The degree to which a person believes they can successfully complete the steps involved in the innovation process is reflected by their creative self-efficacy. Previous studies have shown that an employee's level of self-efficacy affects their job performance, wellbeing, work attitudes, and behaviors associated with creative activity, such as problem-solving (Bicer, Lee, Perihan, Capraro, & Capraro, 2020). Employees that have a high level of CSE are more likely to participate in creative initiatives and stay devoted to them until unique, viable, practical, and valuable ideas are realized. Confidence in one's own abilities has the greatest effect on one's actions than any other factor (Huang, Chang, & Chou, 2020).

Self-efficacy may be broken down into many categories, one of which is creative self-efficacy (CSE), which relates to how individuals feel about their own creative potential. It has been said that originality is essential for the development of a culture that is open to innovation. Yang, Xu, Liu, and Pang (2020) contend that people who have a high degree of CSE are more likely to participate in creative behavior because they are confident in their capacity to conceive new ideas and carry them through. Previous studies have shown that a person's level of confidence in their own creative abilities has an impact on their level of originality, inventiveness, and overall performance in creative endeavors (Newman, Herman, Schwarz, & Nielsen, 2018). It has been proposed that CSE plays an inspiring and enabling role in the process of creativity and innovation in organizations, with important ramifications for affecting the process. As a consequence of this, we propose the theory that will be discussed further below.

H2: Ecopreneurship has a positive effect on Creative Self-Efficacy

### **2.3. Creative Self-Efficacy & IWB (Innovative Work Behavior)**

Self-efficacy has indeed been regarded as a motivator and facilitator of corporate creativity and innovation, with major implications for knowing how it functions (Bandura, 1986; Puente-Martínez, Ubillos-Landa, Echeburúa, & Páez-Rovira, 2016). Employee & innovation were linked, while self-efficacy had a role to play in the diffusion of innovative experiences, according to (Newman et al., 2018) study. Hence, this study leads to the following additional claim:

H3: Creative Self-Efficacy has a positive impact on Innovative Work Behavior

### **2.4. The Creative Self-Efficacy as a Mediator**

One subcategory of self-efficacy is known as creative self-efficacy (CSE), and it describes an individual's sense that they are capable of producing creativity. There is accumulating evidence that CSE has a beneficial effect on creative thinking in the context of the workplace (Ghosh, Sengupta, Narayanamurthy, & Ishizaka, 2021). For instance, several empirical investigations have shown a connection between CSE and creative performance on creative tasks (Tierney & Farmer, 2011). According to the social cognitive theory proposed by Bandura (1986), CSE ought to result in increased levels of inventive behavior for two primary reasons. To begin, those who score high on the CSE are more likely to choose to participate in creative behavior because they will have a high level of self-assurance in their ability to produce ideas and put those ideas into practice in the workplace (Newman et al., 2018). This will cause them to devote more time to creative cognitive processes, such as the identification of issues and the generation of ideas to address those problems, as well as the pursuit of sponsorship for such ideas from individuals in higher positions in the organizational hierarchy. Second, people with a high level of competency in CSE will have a greater sense of confidence in their ability to deal with the difficulties and ambiguity inherent in the process of conceptualizing and putting new ideas into practice in the workplace (Newman et al., 2018). They will have a greater propensity to see difficulties as opportunities and to persist when confronted with failures, in comparison to people who are low in CSE.

The research hypotheses built on the above considerations.

H4: Creative Self-Efficacy mediates the significant relationship between Ecopreneurship and employees' Innovative Work Behavior

## **3. Methodology**

The major objective is to evaluate the predicted links between Ecopreneurship, IWB, and CSE using a quantitative survey technique.

### **3.1. Sample and Procedures**

Data was gathered with the help of a structured questionnaire and the items of the questionnaire are adopted from valid studies. The target area for this study is the industrial

sector of SMEs in Pakistan. The purpose of selecting this sector is that it is highly significant for the development of the economy of Pakistan as its contribution is significant in Pakistan's GDP. In the present study, the unit of analysis is permanent workers employed in SMEs associated with industries. Keeping (Bentler & Chou, 1987) argument in mind that to determine the minimum sample size, 5 responses against each parameter are sufficient we analyzed data received from 168 employees. Out of 168 employees, 143 (85.1%) were males, and 25 (14.9%) were women. Data shows that most of the respondents (44.6%) come under the range of 20 years to 30 years in age, with 32.7% of respondents aged between 31 and 40 years and 22.7% being 40 years or older. The data of control variables also shows that most of the respondents (45.8%) had obtained a post-graduate degree, with 54.2% attaining of under graduation.

## **3.2. Measures**

### **3.2.1. Ecopreneurship**

For measuring Ecopreneurship the questionnaire is adopted from Schmallegger and Koppel (1999) eight items are used to assess four items are new green product development and the other four are from the waste management

### **3.2.2. Creative Self-Efficacy (CSE)**

To measure the creative self-efficacy of workers in SMEs the scale is adopted from Mittal and Dhar (2015). Five items are used for the execution of the novel ideas.

### **3.2.3. Innovative Work Behavior (IWB)**

The instruments for measuring innovative work behavior are adopted Imran and Anis-ul-Haque (2011). Seven items were used to assess workers' capacity to generate innovative thoughts and ideas regarding their jobs.

## **4. Analytical Strategy and Results**

This study started its analysis by applying the CFA (confirmatory factor analysis) test to analyze the validity & reliability of items used in the questionnaire. The study also found the impact of mediation of CSE through calculating and utilizing the technique of unified & structural regression modeling (Stride et al., 2016).

### **4.1. Reliability and Validity Analysis**

The convergent validation of the study constructs is analyzed through Confirmatory factor analysis. The study carried out this analysis based on the suggestion by (Podsakoff, 2003). Moreover, to analyze the model fit, this study, first of all, did the single factor confirmatory factor analysis and the results shows a poor fit for the model of the current study. Therefore, we further explored the model fit based on four factors CFA, this method is suggested by Stein and Chavira (1998) for measuring hypothesized individual factors model fit. The outcomes of four-factor CFA produced good fit with data ( $\chi^2(316) = 1458.28$ ,  $p < 0.001$ ;  $\chi^2/df = 2.128$ ; RMSEA = 0.082; CFI = 0.92; TLI = 0.92; SRMR = 0.082).

The present research also did a Chi-square difference test in order to recognize that the results we obtained through the four-factor model are most suitable to support this research as compared to the single-factor model where ( $p < 0.001$ ) (see Table 1). On the other hand, to analyze the convergent validity & consistency among the items adopted, this study applied different statistical tests of composite reliability (CR), factor loadings, and average variance extracted. Values for AVE for variables must be higher than 0.50, and the value for Composite Reliability of all variables must be higher than 0.70. According to this specified criterion developed by Fornell and Larcker (1981) criterion, the results of this study are under the respective ranges. The details of discriminant validity are shown in table 2.

**Table 1**  
**Model Fit**

Model	$\chi^2$	f	$\chi^2 / df$	CFI	TLI	SOME	RMSEA
Single-factor CFA	462.82	90	5.142	.725	.679	.1047	.157
Four-factor CFA	210.706	99	2.128	.917	.912	.064	.082

**Table 2**  
**Reliability, Convergent Validity, Discriminant Validity**

	CR	AVE	1	2	3
Ecopreneurship	0.90	0.61	0.78		
Creative Self-Efficacy	0.81	0.59	0.66	0.77	
Innovative Work Behavior	0.87	0.52	0.58	0.74	0.72

From Table 3, we see that correlation is at a medium level.

**Table3**  
**Correlation**

Variables	1	2	3
Innovative Work Behavior	1		
Creative Self-Efficacy	.66**	1	
Ecopreneurship	.51**	.57**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## 4.2. Common Method Variance

In this study, a cross-sectional research design was used to gather the data which produced a common method bias, in which a single instrument is used in the study only for one time. Therefore, to identify and reduce common method bias, this study used Harman's One Factor Analysis Harman (1960). Results show only a 46.38% variance. Furthermore, with the support of Principal Component Analysis, the Eigenvalue is calculated to create their factor. The outcomes of the analysis show the extracted value of first factor a has26.58% variance, whereas all factors collectively reported for 66.23% variance.

## 4.3. Multicollinearity and Normality

In the present research, to analyze the presence of multicollinearities, the study used VIF, and tolerance value. The outcomes of the analysis show that all the independent variables of the present study were in the range of 0.90, which is acceptable according to the suggestion of (Ahmed et al., 2018). It is also shown that the value for VIF for all independent variables is less than three. Skewness and kurtosis tests were used for measuring normality and multicollinearity and the outcomes showed that multicollinearity and normality put no significant impact on the results of the study.

## 4.4. Hypothesis Testing

For analyzing the theoretical model of current study, we used model fit and the results are satisfactory ( $\chi^2 / df = 1.93$ ; RMSEA = 0.05; CFI = 0.81; TLI = 0.91; SRMR = 0.06). To analyze this model the researchers controlled the influence of gender, age, and education.

Hypothesis 1 expected that Ecopreneurship positively affects the Innovative Work Behavior of employees. Provision was not found for hypothesis 1 (direct effect = 0.18,  $p = 0.065$ ). Hypothesis 2 projected the significant positive influence of Ecopreneurship on Creative Self-Efficacy. These results support the above statement (direct effect = 0.66, where  $p < 0.001$ ). In Hypothesis 3, the researcher expected that Creative Self-Efficacy will positively impact employees' Innovative Work Behavior, and this was maintained by the results (direct effect = 0.64,  $p < 0.001$ ). The mediating role of CSE was theorized as the mediator among the link between Ecopreneurship and employees' IWB(H4). The results also support the 4<sup>th</sup> hypothesis of the study. (Indirect effect 5 0.422, where  $p < 0.002$ ).

## **5. Discussion and Conclusion**

This research examined how Ecopreneurship practices of industrial SME leaders affect workers' Innovative Work Behavior using Creative Self-Efficacy as a mediator. Despite the high significance of innovation in the success of Assamese and survival of SMEs in the present highly challenging and competitive market environment, very few researches have explored the relationship of innovative work behavior with Ecopreneurship and creative self-efficacy in the area of Pakistan. There is also a great gap existed in the research about individual and organizational level factors that enhance the innovative work behavior of employees in SMEs. Particularly the effect of Ecopreneurship is very scarce link to the innovative work behavior. In this way the current study has high significance to analyze the impact of Ecopreneurship on innovative work behavior of employees with creative self-efficacy through valid and quantitative approach. The results of the study also strengthen the literature in this field. Furthermore, all hypothesis of the study are accepted under the light of study results.

Moreover, this study also greatly contributes in the limited information linked to the relationship between eco pin over ship and innovative work behavior in SMEs of Pakistan. The results that creative self-efficacy particularly impact the innovative work behavior is supported by the study Yang et al. (2020). The results of this research significantly enhance to the body of knowledge about the influence of Ecopreneurship practices on employee IWB (Khaola & Coldwell, 2019). Our study demonstrates that creative self-efficacy has a momentous effect on IWB (Puente-Martínez et al., 2016). Additionally, it confirms past studies demonstrating the beneficial effect of leadership on Innovative Work Behavior (Cummings & O'Connell, 1978). This research contributes to the growing body of data on the influence of Ecopreneurship on Innovative Work Behavior in SMEs. Ecopreneurship practices and behavior have a considerable influence on fostering employees' creativity abilities.

### **5.1. Limitation and Future Direction of the Study**

The emphasis of this study is on the impact of Ecopreneurship practices on employees' Innovative Work Behavior through employees' creative abilities, and as a result, it has a narrow scope. Future studies could study how various leadership styles support employees' Innovative Work Behavior in light of the possibility that they may have an impact on their Innovative Work Behavior, such as distributed leadership (Newman et al., 2018). Additionally, this study has limitations in terms of sample selection among SMEs in the industrial sector. Given that a firm's industry, nature, and type may affect Ecopreneurship practices and Innovative Work Behavior, we highly urge additional research to evaluate the linkages observed in this study across sectors and company types.

### **5.2. Managerial and Practical Implications**

To enhance Innovative Work Behavior among their workers, our findings imply that senior organizational managers should promote Ecopreneurship ideas and practices among their leaders. A company's management should also put in place procedures that promote and support Ecopreneurship leadership principles and workers' struggles to overcome the hurdles of the innovation process. Ecopreneurship leadership and encouragement for innovation are all characteristics that impact the establishment and growth of an individual employee's Innovative Work Behavior, according to this research report. IWB is boosted by the Ecopreneurship actions by the owners of small and medium-sized businesses owners as they generate an innovative environment that motivates the rewards based on creative thinking among the employees and helps the creation of novel ideas.

#### **Authors Contribution**

**Ahmad Tisman Pasha:** conceived the presented idea and developed the theory.

**Muhammad Kamran:** literature search, study design, drafting and data analysis.

**Seemab Zahra Chishti:** critical revision and incorporation of intellectual content.

**Muhammad Hasnain Ali:** literature search, data collection, proofreading, editing references and citation.



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The authors declared no potential conflicts of interest w.r.t this article's research, authorship, and/or publication.

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