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## The effect of entrepreneurial intention, innovation, and perceived creative behavior on entrepreneurship: Government support is a mediating variable

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### Abstract

The study aims to know the direct impact of entrepreneurial intention, innovation, perceived creative behavior, and government influence on entrepreneurship. The study aims to know the indirect effect of entrepreneurial intention, innovation, and perceived creative behavior on entrepreneurship when using government support as a mediator. Data were collected through questionnaires for 140 employees in industrial companies in the Kingdom of Saudi Arabia, which were conducted for two months in some industrial companies in the private sector in the Kingdom of Saudi Arabia. This study uses structural equation model analysis from the Partial Least Squares program through the Smart Plus 4 programs. Through the analysis, we conclude that entrepreneurial intention positively and directly affects entrepreneurship. The study also showed that “entrepreneurial intention does not positively and directly affect Government support, but the relationship between entrepreneurial intention and government support is positive. The study showed that government support does not directly and positively affect entrepreneurship, and that the relationship between government support and entrepreneurship is negative. Through analysis, the study showed that innovation does not directly and positively affect entrepreneurship, and that the relationship between innovation and entrepreneurship is positive. The study showed that innovation positively and directly affects government support, and that the relationship between innovation and government support is positive. Through analysis, the study showed that perceived creative behavior positively and directly affects entrepreneurship, and that the relationship between perceived creative behavior and entrepreneurship is positive. Through analysis, the study showed that perceived creative behavior positively and directly affects government support, and that the relationship between creative behavior and government support is positive.

**Keywords:** Entrepreneurial Intention; Innovation; Perceived Creative Disposition; Government Support; Entrepreneurship; Asmarat Pls 4.

### 1. Introduction

Since entrepreneurship is seen as the engine of economic growth, it is a rapidly developing topic that is now attracting a lot of interest from academics and researchers. By generating jobs, entrepreneurs not only make money for themselves but also for others. Understanding what makes great entrepreneurs tick has broad societal ramifications. Scholars studying entrepreneurship have been interested in what makes someone an entrepreneur. Examining the variables that influence entrepreneurial intention is, in this regard, one of the most important study directions. We think that by comprehending the elements that influence a person's ambition to become an entrepreneur, the entrepreneurial process may be sped up and supported in both theory and practice. Research on the antecedents of emotional intelligence (EI) is expanding, but the decision-making process that encourages entrepreneurial activity is still up for debate. Numerous previous research examined the ways in which personal characteristics, such as personality traits,

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encourage entrepreneurial goals [1-4]. In their investigation of EI, the researchers have also emphasized the significance of the interplay between the environmental and individual elements [5]. Scholars have also demonstrated a strong interest in investigating the function of cognitive components that help people identify and seize chances to launch a new business [6]. In this regard, the cognitive view on entrepreneurship highlights the significance of the creative disposition—that is, the innate ability of a person to generate a new idea—cultivating emotional intelligence in people. Since it takes creativity to spot and seize chances, it is acknowledged that creativity is a crucial component of entrepreneurship. It follows that there is no question about the close relationship between an individual's creative nature and their entrepreneurial attitude and goals. But in the context of this study, we think that perceptions of support—specifically, the impression of university support—may have an impact on the link between creative disposition and entrepreneurial ambition. On the other hand, not much has been published on how students' entrepreneurial intentions are fostered by their creative temperament and sense of academic assistance. In order to close this research gap, the present study centers on the cognitive viewpoint of entrepreneurship, positing that students who possess a higher degree of creative disposition would be more likely to have a positive attitude towards entrepreneurship and to pursue entrepreneurial goals. Furthermore, we think that the association between creative disposition and emotional intelligence (EI) is environment-responsive, thus how supportive a university is seen may have an impact on the relationship. This article offers the conceptual framework of the relevant literature in the parts that follow. It provides the required techniques for data gathering and assessment through the use of quantitative research methodologies. The study's conclusions are clarified in the results and discussion section. The contribution and political ramifications conclude this paper.

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## 2. Literature Review

### 2.1. Context of the Study

There are over 35 million people living in Saudi Arabia, and over 60% of them are under 40 [7]. Almost all of the more than 14,000 in the nation today provide business management courses (HEC Pakistan, 2019). In spite of this, the Kingdom of Saudi Arabia has more than 8 million jobless individuals based on educational attainment [8]. This is an odd situation because a large portion of the unemployed in the Kingdom of Saudi Arabia are the educated younger age. It's interesting to note that workers with greater levels of education typically have higher open unemployment rates. The remaining graduates then choose odd jobs or endure underemployment [6–9]. Higher education courses for entrepreneurship majors have traditionally focused on expanding roles in major corporations. This condition frequently causes young graduates to feel frustrated and hopeless, and it has had negative social and economic effects on nations like Saudi Arabia that are seeing an increase in the number of young people without jobs. The reason for this predicament is that students are not receiving enough assistance and are afraid to take chances and take on new tasks [10]. Companies have reacted to the government-emphasized mission in entrepreneurship education to address business sectors' demand for people with the knowledge and abilities necessary to enter into the corporate world and to acquire the skills necessary for self-employment [11]. Establishing graduate-level entrepreneurship education and programs is becoming more and more important for developing nations in order to promote the creation of new businesses and improve entrepreneurial abilities. Economic growth and national competitiveness may also benefit from it [12]. Merely a small number of institutions in Pakistan acknowledge the significance of entrepreneurship for these reasons [13]. Numerous entrepreneurial education initiatives have been introduced by Pakistani universities, both private and governmental. The federal government is devoting significant funds to the establishment of company incubation programs for student start-ups [13, 14]. The primary obstacles were a lack of knowledge and encouragement to take the risk of launching a business. Only when a new venture is high-risk and starts from scratch can creativity emerge. Universities interested in starting comparable entrepreneurial operations are constrained due to funding and resource shortages. As a result, it's imperative to close the knowledge gaps brought about by the absence of formal plans from reputable regional business schools as well as by a dearth of studies and initiatives pertaining to the real-world application of business awareness.

### 2.2. Entrepreneurship and Entrepreneurial Intentions

Given its significant impact on job creation, innovation, creativity, and social development as well as the nation's economic progress, entrepreneurship need to be included in all curricula [15, 16]. Entrepreneurship is a competitive activity that propels innovation, the development of new markets, and the creation of jobs [17]. As a nation's main catalyst for innovation, economic expansion, and job creation, entrepreneurship is crucial. Thus, entrepreneurs boost the nation's overall productivity, innovation, and economy [18]. Entrepreneurs have a critical role in modernization, economic growth, the production of wealth and jobs, and even health improvement. Similar to self-employment, entrepreneurship is seen as a natural solution to issues with employability, particularly for young people [19, 20]. Scholars have long been interested in understanding the causes of entrepreneurial activity, and the strongest predictor

of entrepreneurial behavior is emotional intelligence (EI) [21]. The process of acquiring information that may be applied to achieve a commercial drive is known as emotional intelligence (EI). A person's temperament would alter depending on whether they were eager or reluctant to launch a new firm [22–24]. As a result, EI is a crucial factor in determining a person's propensity to create and run businesses. All business process-related issues will appear more serious than those involving entrepreneurship to someone who is not engaged in entrepreneurship [25]. They are viewed as risk-takers who desire to achieve on their own in the business sector and who start realizing their ideas with optimism and plenty of self-confidence [26]. As a result, the original business concept need to be seen as a significant chance for economic expansion [27].

### 2.3. Creative Disposition, Attitude toward Entrepreneurship and Entrepreneurial Intentions

Being creative means coming up with new and useful ways to combine and reorganize existing information. Human creativity is the capacity for thought, modification, discovery, and creation [28, 29]. Finding and making the most of the new chances mostly depend on one's capacity to identify and comprehend the connections between concepts. The same is true of the entrepreneurial process, in which a person seeking to launch a new business must exercise creativity in locating and seizing possibilities. The research on creativity indicates that the process of entrepreneurship heavily relies on creativity. Individuals possessing a greater degree of creative inclination are better able to sustain a positive mood and elevated self-confidence during the entrepreneurial process [30]. A small number of previous studies have used creativity to examine people's ambitions to become entrepreneurs; for instance, Hamidi et al. [31] added originality to the paradigm of entrepreneurial intention. They discovered a beneficial relationship between creativity and emotional intelligence. Sternberg [32] asserts that entrepreneurs have strong mental frameworks that drive them to think creatively and creatively more than non-entrepreneurs. In a similar vein, another study [33] discovered that people's EI increased with their impression of their creative tendency. According to Feldman and Bolino [34], those who are more creative by nature are more likely to choose self-employment. In a similar vein, one's attitude toward launching a new business may be greatly influenced by creative intelligence [33]. Thus, based on these arguments, we propose that:

#### 2.3.1. Attitude toward Entrepreneurship and Entrepreneurial Intentions

At the time, a new company was being formed, and the first step in the process was to declare one's intentions as an entrepreneur [35]. The attitude toward entrepreneurship (ATE) and perceived behavior control (PBC), two of the three EI motivation components included in the TPB model, have been found to have the strongest correlation with EI [36]. Because entrepreneurs are more internally focused and less socially oriented than non-entrepreneurs, the SN is less relevant to EI than the ATE and the PBC, according to the literature on entrepreneurship [37]. We only include mediation impact (ATE), which is the primary EI strength and is linked to creativity, in our model. Recent research has suggested that ATE serves as an intermediary variable in a number of connections that connect psychological and/or individual characteristics with business results. For example, ATE has been proposed as an intermediary between personality traits and emotional intelligence [4]. It has been demonstrated that ATE consistently raises EI. Students who are enthusiastic about beginning a firm, possess the requisite entrepreneurial abilities and innovative thinking, and are self-assured are more likely to embark on a new career as entrepreneurs. Consequently, PCD is a remote antecedent of EI position, but ATE may anticipate EI position. Consequently, it is anticipated to have a direct correlation with EI and an indirect correlation—through ATE between PCD and EI. Consequently, we develop the following hypotheses:

#### 2.3.2. Government support, perceived innovative disposition, and entrepreneurial intention

Universities are seen to be a good place to encourage creativity and an entrepreneurial mindset. In order to favorably influence students' intents and efforts toward entrepreneurship and enable them to launch a new business, universities may play a big part [38]. Consequently, we think that colleges serve as a central location for students to develop their entrepreneurial ambition. Examining how much educational institutions influence students' aspirations to become entrepreneurs is crucial. This may be accomplished, for example, by looking at how students' perceptions of institutional support affect their emotional intelligence and creative temperament. Universities may help in certain ways by imparting the information and abilities required to start a business. Universities might also provide students focused assistance. Support for idea and business growth may be among the targeted services [39]. Despite the fact that creativity is thought of as a personality attribute, research suggests that creativity may be responsive to its surroundings, meaning that outside factors may have an impact on creativity [38]. As a result, we think that personal and environmental/external circumstances might influence creativity. Research suggests, for instance, that students' creativity may be influenced by their academic environment [40]. In light of these reasons, we so propose the following theory.

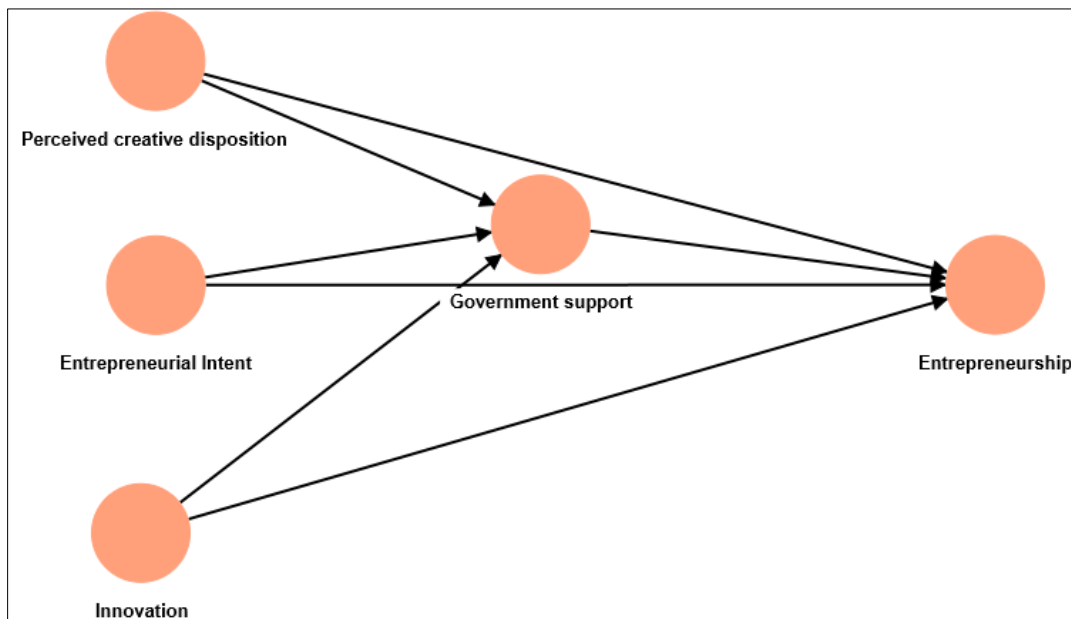
#### 2.3.3. Hypothesis development

- The first hypothesis: “Entrepreneurial intention positively and directly affects entrepreneurship.”

- The second hypothesis: “Entrepreneurial intention positively and directly affects government support.”
- The third hypothesis: “Government support positively and directly affects entrepreneurship.”
- Fourth hypothesis: “Innovation positively and directly affects entrepreneurship.”
- The fifth hypothesis: “Innovation positively and directly affects government support.”
- The sixth hypothesis: “Perceived creative behavior positively and directly affects entrepreneurship.”
- The seventh hypothesis states that “perceived creative behavior positively and directly affects government support.”
- The eighth hypothesis: “Entrepreneurial intention affects entrepreneurship when government support is a mediating variable.”
- Hypothesis 9: “Perceived creativity influences entrepreneurship when government support is a mediating variable.”
- Hypothesis 10: “Innovation affects entrepreneurship when government support is a mediating variable.”

## 2.4. Study Framework

A conceptual framework is thus constructed on the basis of the above discussion and hypothesis development as we can see in Figure 1.



**Figure 1** The study variables

## 3. Methodology

Information was gathered from 260 workers in small, independent enterprises. The final quarter of 2023 saw the collection of the data. The Kingdom of Saudi Arabia's capital city, Riyadh, is where it is situated [16]. This study employed a quantitative, cross-sectional research design that was based on the survey technique. The questionnaire was translated into Arabic in the Kingdom of Saudi Arabia because Arabic is the language used. For this reason, the questionnaire was created in English. A pilot research was carried out prior to the real data collecting. The findings were analyzed using partial least squares (PLS) structural equation modeling (SEM), and the PLS-SEM was performed using Smart-PLS software version 4. The literature on management and marketing has discussed this technique [41–47].

### 3.1. Data analysis

#### 3.1.1. Measures

EI items were taken from [16] in order to get data on the entrepreneurial intentions of students. To gather data on ATE, a scale created by Liñán and Chen [48] was used; PCD and PUS scales were taken from [46,49,50]. After being tested in the Saudi Arabian context, every item met the Cronbach's alpha threshold. PLS-SEM is a two-step procedure that includes structural modeling and measurement assessment [51–54]. The measuring model should be tested first by assessing its internal consistency reliability (ICR), convergent validity (CV), and discriminant validity (DV) [55,56]. An

evaluation of the ICR test's latent construct measurement is made possible by a composite reliability (CR) score. A composite dependability (CR) of 0.70 or above is recommended, with 0.70 regarded as sufficient [56]. The average variance extracted (AVE) scores for each construct likewise met the threshold value of 0.5, suggesting an acceptable CV [57,58]. Table 1 below displays the factor loadings (FL), CR, and AVE scores.

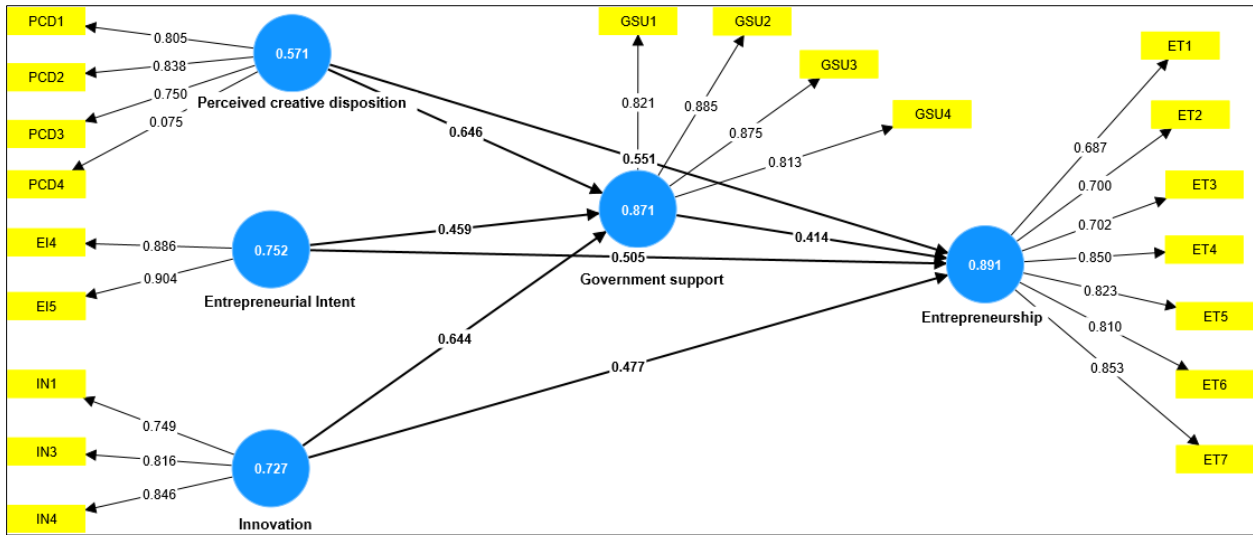


Figure 3 The PLS algorithm of the measurement model

### 3.2. Measurement model

The construct reliability, individual item-wise reliability, discriminant, and convergent validity of each assessment item must be evaluated. Analysis of the reliability measurements was done using the scale's internal consistency and each item's dependability separately. A particular item's reliability has to be evaluated in relation to the standards that load every item into the initial variable. Each item needs to have a Cronbach's alpha loading value of at least 0.7. An average variance extracted value of 0.50 or higher indicates that a concept explains more than half of the variation of its indicators. Convergent validity was assessed by looking at the average variance recovered and the composite reliability. Values in the range of 0.70 to 0.90 indicate acceptable composite dependability (Hair et al., 2017; Yaseen et al., 2016).

Table 1 The values Outer loadings and Construct reliability and validity ( Cronbach's alpha , Composite reliability (rho\_a) , Composite reliability (rho\_c) , Average variance extracted (AVE)

Study variables	Items	Outer loadings	Outer weights	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Entrepreneurial Intent	EI4	0.886	0.535	0.752	0.756	0.890	0.801
	EI5	0.904	0.582				
Entrepreneurship	ET1	0.787	0.157	0.891	0.903	0.914	0.605
	ET2	0.700	0.163				
	ET3	0.702	0.136				
	ET4	0.850	0.217				
	ET5	0.823	0.201				
	ET6	0.810	0.187				
	ET7	0.853	0.213				
	GSU1	0.821	0.267	0.871	0.873	0.912	0.721

Government support	GSU2	0.885	0.301	0.727	0.730	0.846	0.648
	GSU3	0.875	0.309				
	GSU4	0.813	0.299				
Innovation	IN1	0.749	0.420	0.727	0.730	0.846	0.648
	IN3	0.816	0.379				
	IN4	0.846	0.445				
Perceived creative disposition	PCD1	0.805	0.502	0.571	0.737	0.745	0.480
	PCD2	0.838	0.398				
	PCD3	0.750	0.347				
	PCD4	0.775	0.031				

Table 1 shows the correlation matrix of the model constructs. Moreover, it shows the square roots of the average variance extracted. To ensure that the square roots of the average variance extracted was greater than the correlation between the construct and other constructs, discriminant validity was measured. (Yassin et al., 2016). The Cronbach's alpha values for all variables were greater than 0.07, and the Cronbach's alpha values (entrepreneurial intention, entrepreneurship, government support, innovation, and perceived creative disposition) were respectively (0.752, 0.891, 0.871, 0.727, 0.571). While the composite reliability values (rho\_a) for the study variables were greater than 0.07, which are (0.756, 0.903, 0.873, 0.730, 0.737), respectively, while the composite reliability values (rho\_c) were all greater than 0.07, which are (0.890, 0.914, 0.912, 0.846, 0.745), respectively. Also, the average values of variance extracted (AVE) for entrepreneurial intention, entrepreneurship, government support, innovation, and perceived creative behavior were greater than 0.05 and reached (0.801, 0.605, 0.721, 0.648, 0.480), respectively. This indicates the strength and validity of reliability.

**Table 2** Discriminant validity

	<b>Entrepreneurial Intent</b>	<b>Entrepreneurship</b>	<b>Government support</b>	<b>Innovation</b>	<b>Perceived creative disposition</b>
Entrepreneurial Intent					
Entrepreneurship	0.608				
Government support	0.563	0.467			
Innovation	0.750	0.585	0.806		
Perceived creative disposition	0.743	0.708	0.858	0.811	

All variables had Cronbach's alpha values larger than 0.07; the values were (0.752 , 0.891, 0.871, 0.727 ,0.571) for entrepreneurial intention, entrepreneurship, government support, innovation, and perceived creative disposition. The research variables had composite reliability values (rho\_a) of 0.756 , 0.903 , 0.873 , 0.730 ,0.737, respectively, more than 0.07, while the composite reliability values (rho\_c) of 0.890 , 0.914, 0.912 , 0.846 ,0.745, respectively, were all greater than 0.07. Additionally, the average values of variance extracted (AVE) for organizational performance, innovation, creativity, experience and expertise, and teaching and learning were all greater than 0.05 and reached (0.801, 0.605 ,0.721 ,0.648 ,0.480), in that order. This demonstrates the reliability's validity and strength.

**Table 3** Heterotrait-monotrait ratio (HTMT) – List

Relationship	Heterotrait-monotrait ratio (HTMT)
Entrepreneurship <-> Entrepreneurial Intent	0.608
Government support <-> Entrepreneurial Intent	0.563
Government support <-> Entrepreneurship	0.467
Innovation <-> Entrepreneurial Intent	0.750
Innovation <-> Entrepreneurship	0.585
Innovation <-> Government support	0.806
Perceived creative disposition <-> Entrepreneurial Intent	0.743
Perceived creative disposition <-> Entrepreneurship	0.708
Perceived creative disposition <-> Government support	0.858
Perceived creative disposition <-> Innovation	0.811

A table showing the degree of relationship between the study variables, all of which are greater than 0.5. The relationship between entrepreneurship <-> entrepreneurial intention was (0.608), the relationship between government support <-> entrepreneurial intention was (0.563), and the degree of the relationship between government support <-> entrepreneurship (0.467) was the only relationship that was not good. ..., and the relationship ratio between innovation <-> entrepreneurial intention (0.750). The relationship between innovation <-> entrepreneurship was (0.585), and the relationship between innovation <-> government support was (0.806). The relationship between perceived creative disposition <-> entrepreneurial intention was (0.743). The relationship between perceived creative disposition <-> entrepreneurship is (0.708), while the relationship between perceived creative disposition <-> government support is (0.858), and the relationship between perceived creative disposition <-> innovation is (0.811).

**Table 4** Fornell-Larcker criterion

	Entrepreneurial Intent	Entrepreneurship	Government support	Innovation	Perceived creative disposition
Entrepreneurial Intent	0.895				
Entrepreneurship	0.505	0.778			
Government support	0.459	0.414	0.849		
Innovation	0.556	0.477	0.644	0.805	
Perceived creative disposition	0.542	0.551	0.646	0.567	0.693

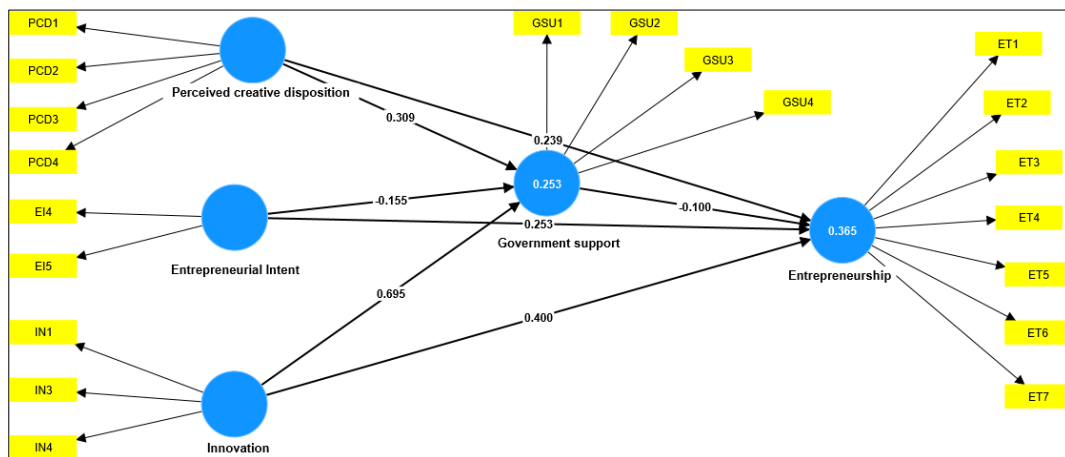
Table Four The average variance extracted (AVE) approach was employed in this study to examine the relationship between the items. The findings show that excellent convergent validity is indicated by values larger than 0.50. Valid content validity is also shown by factor loading values greater than 0.50. In summary, alpha values more than 0.70 and composite reliability (CR) values bigger than 0.70 imply significant dependability. These figures are shown in Table 1. Fornell Larcker was also utilized in this investigation to examine the association between the variables. The values associated with the variable itself and the other variables had a greater link, according to the results. The discriminant function's validity was confirmed by these outcomes. These figures are shown in Table 2. Cross-loadings were employed in this study to examine the relationship between the variables. The values of the independent variable were higher than those of the dependent variables, according to the results. The discriminant function's validity was confirmed by these outcomes. The table presents these figures. Table 4 demonstrates that the loading factor value for the latent

variable indicators is higher than the loading values of the other latent variables. That is, the discriminant validity of latent variables is good.

**Table 5** Cross loadings

		<b>Entrepreneurial Intent</b>	<b>Entrepreneurship</b>	<b>Government support</b>	<b>Innovation</b>	<b>Perceived creative disposition</b>
Entrepreneurial Intent	EI4	0.886	0.451	0.373	0.457	0.454
	EI5	0.904	0.454	0.447	0.535	0.514
Entrepreneurship	ET1	0.322	0.687	0.294	0.355	0.355
	ET2	0.373	0.700	0.282	0.308	0.369
	ET3	0.266	0.702	0.277	0.313	0.316
	ET4	0.484	0.850	0.353	0.443	0.485
	ET5	0.425	0.823	0.345	0.373	0.481
	ET6	0.406	0.810	0.311	0.382	0.426
	ET7	0.431	0.853	0.379	0.406	0.519
Government support	GSU1	0.337	0.328	0.821	0.490	0.494
	GSU2	0.398	0.360	0.885	0.574	0.545
	GSU3	0.472	0.365	0.875	0.569	0.579
	GSU4	0.346	0.351	0.813	0.547	0.572
Innovation	IN1	0.502	0.405	0.508	0.749	0.458
	IN3	0.419	0.313	0.498	0.816	0.393
	IN4	0.419	0.424	0.543	0.846	0.507
Perceived creative disposition	PCD1	0.476	0.528	0.603	0.516	0.805
	PCD2	0.464	0.440	0.461	0.433	0.838
	PCD3	0.340	0.322	0.455	0.388	0.750
	PCD4	0.002	-0.025	0.087	0.034	0.075

3.2.1. F2 AND R2



**Figure 3** The PLS algorithm of the measurement model. F2 AND R2



**Table 6 R2**

	R-square	R-square adjusted
Entrepreneurship	0.378	0.366
Government support	0.531	0.524

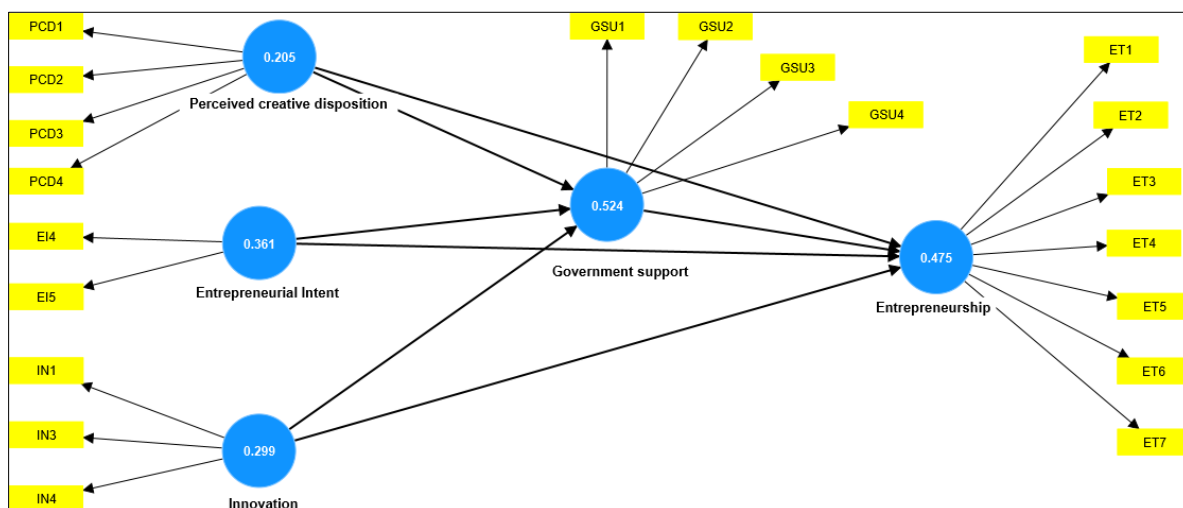
The coefficient of determination of a variable (R2) is the fraction of its variance that can be attributed to all external sources, taking into account evaluation (R2), effect size (f2), and predictive significance (R2). Furthermore, (Hare et al., 2017) suggested that selection values should be based on appropriate cut-off values for the parameters, such as 0.75 strong, 0.50 moderate, and 0.25 weak. The table data support the coefficient of determination, indicating a respectable level of forecast accuracy. Using the R2 factor, the relationship between motivation and the mediating variable represented by government support was examined, and the R2 value was equal to 0.531. While the value of R2 for the dependent variable represented by entrepreneurship was 0.378. The R2 value is considered significant and significant because it is greater than 0.30. This is an important result. The relationship of the latent dependent variable to the independent variable is shown through the effect size. Whether or not a particular moderating variable is included in the model under consideration determines the difference in R2 between the main effects (Hair, et al., 2013). For each model, the cutoff values for strong connectivity are 0.35, moderate connectivity 0.15, and weak connectivity 0.02.

**Table 7 F2**

Size of effects	f-square	Measuring the size of effects
Entrepreneurial Intent -> Entrepreneurship	0.056	Large
Entrepreneurial Intent -> Government support	0.000	Small
Government support -> Entrepreneurship	0.000	Small
Innovation -> Entrepreneurship	0.022	Large
Innovation -> Government support	0.206	Large
Perceived creative disposition -> Entrepreneurship	0.094	Large
Perceived creative disposition -> Government support	0.217	Large

F2 is a measure of effect size that indicates how much an exogenous variable contributes to the R2 of an endogenous variable. (Cohen ,1988) suggested the following thresholds for F2: 0.02 (small), 0.15 (medium), and 0.35 (large).

3.2.2. Q2



**Figure 3** The PLS algorithm of the measurement model. Q2

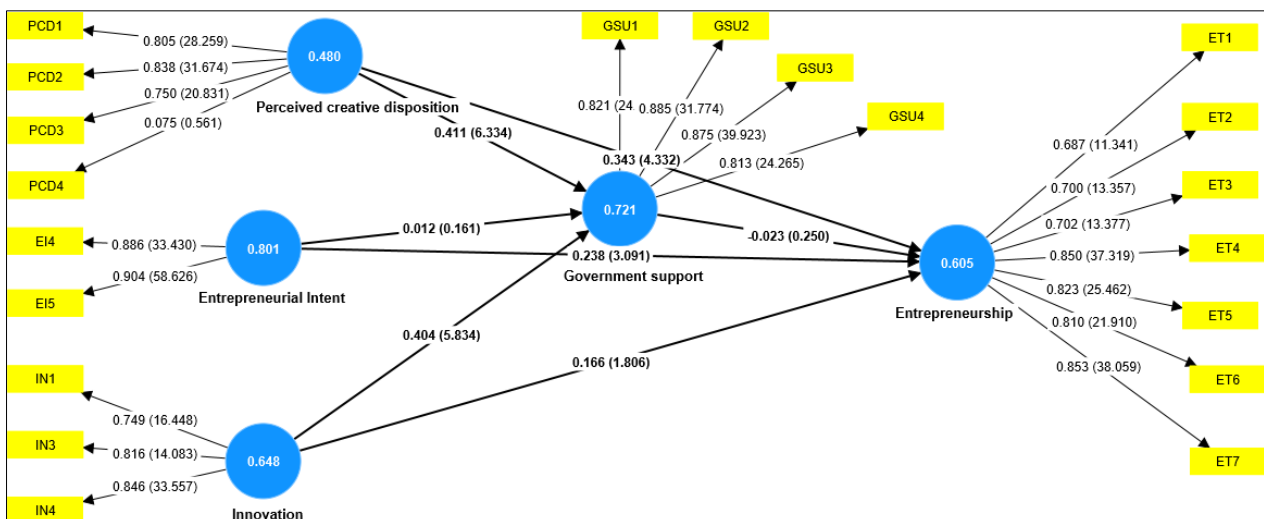
**Table 8** SSO, SSE, Q<sup>2</sup> (=1-SSE/SSO)

	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
Entrepreneurial Intent	424.000	424.000	0.000
Entrepreneurship	1484.000	1162.641	0.217
Government support	848.000	531.549	0.373
Innovation	636.000	636.000	0.000
Perceived creative disposition	848.000	848.000	0.000

These numbers show the relationship between each model. (Al-Shaar et al., 2011) states that (Q<sup>2</sup>) is a measure of predictive importance that evaluates the degree of prediction of all internal thought indicators resulting from the model. A blindfolded approach is used to calculate this number (Wong, 2013). Verified replication and community-validated methods can be used to calculate the Q<sup>2</sup> value (Sarstedt et al., 2014). Make the political decision first. If the Q<sup>2</sup> values of any endogenous latent variable are greater than zero, the path model provides a reasonable level of prediction accuracy for that construct (Sarstedt et al., 2014). The mediating variable of government support has Q<sup>2</sup> values of 0.217 and the dependent variable “entrepreneurship” in Table 7 has a Q<sup>2</sup> value of 0.373, indicating a prediction accuracy of 49.2% for this construct in the model. This indicates that the path model provides a reasonable level of prediction accuracy for the concept of “entrepreneurship.” Table 8 shows that the endogenous latent variable “entrepreneurship” has a second quartile value of 0.373, indicating a predictive accuracy of 47.6% for this model component. This shows the average prediction accuracy of the path model for the concept of “entrepreneurship”.

**3.3. The structural model**

Research model was analyzed using Partial Least Square structural equation modeling (SmartPLS 3.2) tool which assesses psychometric properties of measurement model. Moreover, it evaluates parameters of structural model. SmartPLS develops componentbased approach to structural equation model by using bootstrapping method. Moreover, SmartPLS path model entails of two essentials: Inner model (measurement model) and outer model (structural model) (Yaseen et. al, 2016).



**Figure 4** The PLS algorithm of the measurement model

Table 5 shows all the values of the study items, where the beta values for all the study items were greater than 0.5. Also, all the beta values for the items of the study variables are positive, and this indicates that the relationship is positive between all items of the study variables, and that the values of the sample mean (M) are greater than its constant B with a value of 0.7, and this is evidence of the validity and reliability of all items of the study. It was also observed through the analysis that all T values are greater than 2 and P values are less than 0.05, which means that there is a positive effect and a direct and positive relationship between entrepreneurial intention, entrepreneurship, government support,

innovation, and perceived creative disposition. . There is also an indirect relationship between entrepreneurial intention, entrepreneurship, innovation, and perceived creative behavior when government support is a mediating variable.

**Table 9** Mean, STDEV, T values, p values For study paragraphs

	beta	Sample mean (M)	S. d	Bias	2.5%	97.5%	T	P values
EI4	0.886	0.884	0.026	-0.002	0.466	0.588	33.430	0.000
EI5	0.904	0.905	0.015	0.002	0.519	0.665	58.626	0.000
ET1	0.687	0.682	0.061	-0.001	0.117	0.195	11.341	0.000
ET2	0.700	0.697	0.052	-0.001	0.131	0.197	13.357	0.000
ET3	0.702	0.699	0.052	0.000	0.094	0.168	13.377	0.000
ET4	0.850	0.849	0.023	0.000	0.191	0.260	37.319	0.000
ET5	0.823	0.823	0.032	0.000	0.173	0.236	25.462	0.000
ET6	0.810	0.809	0.037	0.001	0.158	0.221	21.910	0.000
ET7	0.853	0.852	0.022	0.000	0.188	0.248	38.059	0.000
GSU1	0.821	0.819	0.033	0.000	0.234	0.302	24.695	0.000
GSU2	0.885	0.885	0.028	0.001	0.276	0.332	31.774	0.000
GSU3	0.875	0.874	0.022	0.000	0.280	0.344	39.923	0.000
GSU4	0.813	0.812	0.034	0.000	0.267	0.341	24.265	0.000
IN1	0.749	0.746	0.046	-0.003	0.350	0.501	16.448	0.000
IN3	0.816	0.815	0.058	0.002	0.271	0.450	14.083	0.000
IN4	0.846	0.847	0.025	-0.002	0.393	0.510	33.557	0.000
PCD1	0.805	0.801	0.028	-0.004	0.443	0.578	28.259	0.000
PCD2	0.838	0.837	0.026	-0.002	0.359	0.448	31.674	0.000
PCD3	0.750	0.750	0.036	0.000	0.302	0.399	20.831	0.000
PCD4	0.075	0.069	0.134	-0.005	-0.086	0.156	0.561	0.623

**Table 10** Testing hypotheses for indirect effects

	beta	Sample mean (M)	S. d	Bias	2.5%	97.5%	T	P values	decision
Entrepreneurial Intent -> Government support -> Entrepreneurship	0.000	0.000	0.007	0.000	-0.020	0.012	0.039	0.969	Not supported
Perceived creative disposition -> Government support -> Entrepreneurship	-0.009	-0.013	0.039	-0.004	-0.085	0.070	0.242	0.809	Not supported
Innovation -> Government support -> Entrepreneurship	-0.010	-0.013	0.039	-0.003	-0.082	0.071	0.248	0.804	Not supported

Figures 2 and 3 indicate the total effect, mediating effect, path coefficients, and probability values for the research model similar to Hayes (2009). Figure 5 focuses on the direct effect between entrepreneurial intention, government support,

innovation, and perceived creative disposition on entrepreneurship. There is also an indirect effect between entrepreneurial intention, innovation, and perceived creative behavior on entrepreneurship when government support is an intermediary variable. The table shows this in relation to the hypothesis, which states that “entrepreneurial intention affects entrepreneurship when government support is a mediating variable.” Through the analysis, the study showed that “entrepreneurial intention does not have an indirect positive effect on entrepreneurship, but the relationship between entrepreneurial intention and entrepreneurship is positive, as (beta value = 0.000; T = 0.039; P > 0.05) according to this.” Results: The hypothesis was rejected and it is an unacceptable and unsupported hypothesis. The table shows this in relation to the hypothesis, which states that “perceived creative disposition affects entrepreneurship when government support is a mediating variable.” Through analysis, the study showed that “perceived creative behavior does not have an indirect positive effect on perceived creative behavior, and the relationship between entrepreneurial intention and entrepreneurship is negative, as (beta value = -0.009; T = 0.242; P > 0.05) according to With these results, the hypothesis was rejected and it is an unacceptable and unsupported hypothesis. The table shows this in relation to the hypothesis, which states that “innovation affects entrepreneurship when government support is a mediating variable.” Through the analysis, the study showed that “innovation does not have an indirect positive effect on entrepreneurship, and the relationship between innovation and entrepreneurship is negative, as (beta value = -0.010; T = 0.248; P > 0.05) according to and with these results, the hypothesis was rejected.” This is an unacceptable and unsupported hypothesis.

**Table 11** Testing hypotheses for the direct effect

	beta	Sample mean (M)	S.d	Bias	2.5%	97.5%	T	P values	decision
Entrepreneurial Intent -> Entrepreneurship	0.238	0.237	0.077	-0.001	0.080	0.382	3.091	0.002	Supported
Entrepreneurial Intent -> Government support	0.012	0.010	0.075	-0.002	0.133	0.162	0.161	0.872	Not Supported
Government support -> Entrepreneurship	-0.023	-0.033	0.094	-0.010	0.197	0.164	0.250	0.803	Not Supported
Innovation -> Entrepreneurship	0.166	0.175	0.092	0.009	0.022	0.339	1.806	0.071	Not Supported
Innovation -> Government support	0.404	0.406	0.069	0.002	0.268	0.536	5.834	0.000	Supported
Perceived creative disposition -> Entrepreneurship	0.343	0.346	0.079	0.003	0.186	0.497	4.332	0.000	Supported
Perceived creative disposition -> Government support	0.411	0.412	0.065	0.001	0.274	0.531	6.334	0.000	Supported

Figures 2 and 3 indicate the total effect, mediating effect, path coefficients, and probability values for the research model similar to Hayes (2009). Figure 5 focuses on the direct effect between entrepreneurial intention, government support, innovation, and perceived creative disposition on entrepreneurship. There is also an indirect effect between entrepreneurial intention, innovation, and perceived creative behavior on entrepreneurship when government support is an intermediary variable. The table shows this in relation to the first hypothesis, which states that “entrepreneurial intention positively and directly affects entrepreneurship.” Through the analysis, the study showed that “entrepreneurial intention positively and directly affects entrepreneurship, and the relationship between entrepreneurial intention and entrepreneurship is positive, as (beta value = 0.238; T = 3.091; P < 0.05) according to these results. Accepting the first hypothesis, which is an accepted and supported hypothesis. The table shows this in relation to the second hypothesis, which states that “entrepreneurial intention positively and directly affects government support.” Through the analysis, the study showed that “entrepreneurial intention does not positively and directly affect government support, but the relationship between entrepreneurial intention and government support is positive, as (beta value = 0.012; T = 0.161; P > 0.05) according to these results. The second hypothesis was rejected, which is unacceptable and unsupported. The table shows this in relation to the third hypothesis, which states that

“government support positively and directly affects entrepreneurship.” Through analysis, the study showed that government support does not have a positive and direct effect on entrepreneurship, and the relationship between government support and entrepreneurship is negative, as (beta value = -0.023;  $T = 0.250$ ;  $P > 0.05$ ) and according to these results, the hypothesis was rejected. The third hypothesis is unacceptable and unsupported. The table shows this in relation to the fourth hypothesis, which states that “innovation positively and directly affects entrepreneurship.” Through analysis, the study showed that innovation does not directly and positively affect entrepreneurship, and that the relationship between innovation and entrepreneurship is positive, as (beta value = 0.166;  $T = 1.806$ ;  $P > 0.05$ ) according to these results, the fourth hypothesis, which is the hypothesis, was rejected. Not accepted and not supported. The table shows this in relation to the fifth hypothesis, which states that “innovation positively and directly affects government support.” Through analysis, the study showed that innovation has a positive and direct impact on government support, and that the relationship between innovation and government support is positive, as (beta value = 0.404;  $T = 5.834$ ;  $P < 0.05$ ) according to With these results, the fifth hypothesis was accepted, which is an acceptable hypothesis. And supported. The table shows this in relation to the sixth hypothesis, which states that “perceived creative behavior positively and directly affects entrepreneurship.” Through analysis, the study showed that perceived creative behavior has a positive and direct effect on entrepreneurship, and the relationship between perceived creative behavior and entrepreneurship is positive, as (beta value = 0.343;  $T = 4.332$ ;  $P < 0.05$ ) and according to these results, the hypothesis was accepted. Sixth, it is an accepted and supported hypothesis. The table shows this in relation to the seventh hypothesis, which states that “perceived creative behavior positively and directly affects government support.” Through analysis, the study showed that perceived creative behavior positively and directly affects government support, and the relationship between creative behavior and government support is positive, as (beta value = 0.411;  $T = 6.334$ ;  $P < 0.05$ ) according to and with these results, the seventh hypothesis was accepted. This is an acceptable and supported hypothesis.

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## 4. Discussion

### 4.1. Entrepreneurial Intention and Open Innovation

By drawing motivation from the theory of planned behavior, this study aims to test the role of perceived creative disposition and entrepreneurship on employees' entrepreneurial intentions. In addition, the mediating role of government support in the relationship between perceived creative disposition and emotional intelligence was tested. Due to the growth of new businesses around the world, entrepreneurship is now viewed as a solution to social and economic growth [61]. However, the intention of employees in industrial enterprises to start a business has steadily increased, but has not yet reached the level required to solve the problem of youth unemployment. This is why areas with the highest unemployment rates have seen an increase in the number of entrepreneurs in recent years, especially across the country [7,62]. In this context, an open innovation (OI) approach was introduced, which includes employees and companies in decision-making. As a result, motivation, learning and career outcomes can be improved [63]. This issue has not been effective in previous literature despite it being an opportunity for advanced learning. Therefore, introducing open innovation (OI) to employees, innovators, entrepreneurs and stakeholders (companies) will serve as an additional incentive and benefit [64]. Moreover, the results also confirm the influence of perceived creative disposition on entrepreneurial attitude and intention. According to Amabile [19], creativity results from different behavioral traits and sets of interrelated creative skills. These results contradict the hypothesis proposed in previous studies [9,24]. The results of H1 showed that PCD has a significant and positive effect on EI. Therefore, PCD is a predictor of EI. PCD. Since PCD showed a decisive and positive effect on EI over GS, H4 was also supported. Smart-PLS bootstrapping results indicate that GS mediates the association between PCD and EI. PCD affects EI through ATE, and ATE also affects EI. The effect of partial mediation was mentioned. These results can conclude that PCD can improve employees' self-confidence and attitudes. Table 5 presents the interpretation and summary of the results. By testing the mediator hypotheses through a data set of business employees, it was found that the perception of government support was related to the development of emotional intelligence. It is easier to develop strong intentions and shift intentions toward entrepreneurship. Some researchers have pointed out that the barriers to entrepreneurship that graduates in the developing world face include the appropriate climate and business support. Various studies have confirmed that entrepreneurship will contribute significantly to economic growth if the entrepreneur has a supportive environment [70,71]. This will help employees in industrial companies to start working at the end of their educational career instead of searching for a job. Therefore, advanced entrepreneurship refers to government support that develops and enhances creativity, awareness, knowledge and experience in the field of entrepreneurship to become a successful entrepreneur. Over the past few years, the benefits of incorporating open philosophy into knowledge-based collaborative learning have been widely discussed in the literature but have not yet reached the preferred point. Social innovation in education is made possible by the collaboration model [72]. In this regard, while recent empirical reviews have shown a positive relationship between participation in entrepreneurship education programs and the development of entrepreneurial intentions, there is still insufficient evidence to support or refute this claim [62,73]. Open innovation (OI) in the

industrial sector has attracted additional attention compared to other areas, for example, services. This is primarily reflected in the educational environment [63].

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## 5. Conclusion

Through the analysis, we conclude that entrepreneurial intention positively and directly affects entrepreneurship.” The study showed that “entrepreneurial intention does not positively and directly affect government support, but the relationship between entrepreneurial intention and government support is positive. The study showed that government support does not positively and directly affect entrepreneurship, and the relationship between government support and entrepreneurship is negative.”

Through analysis, the study showed that innovation does not directly and positively affect entrepreneurship, and that the relationship between innovation and entrepreneurship is positive. The study showed that innovation positively and directly affects government support, and that the relationship between innovation and government support is positive. Through analysis, the study showed that perceived creative behavior positively and directly affects entrepreneurship, and that the relationship between perceived creative behavior and entrepreneurship is positive. Through analysis, the study showed that perceived creative behavior positively and directly affects government support, and that the relationship between creative behavior and government support is positive.

### *Limitations and directions for future research*

This study has a few limitations, as do many other studies. The primary limitation relates to sample selection. In this research, the sample consisted of employees in Saudi industrial companies only. It is therefore suggested that future research integrates other companies and sectors in the Kingdom. The second limitation is the time frame because this research was cross-sectional. Therefore, it does not provide a definite cause-and-effect relationship. Mixed methods research will indicate a better understanding of the impact of entrepreneurs' intention, innovation, and perceived creative perception on entrepreneurship when using government support as a mediating variable. Third, the study focused on entrepreneurial motivation, which is the critical factor that influences the number of individuals who start businesses. Although focusing on entrepreneurial intent is useful, new firm start-up rates are affected by other factors. Finally, we simply investigated the finding of PCD in one of the countries; Therefore, it is possible to conduct a multi-country analysis to provide more general results. Moreover, the creative atmosphere and connection with possibilities may also change a person's actions. It is also recommended to study in multicultural countries.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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