

## The Relationship Between Strategic Intelligence And Entrepreneurial Performance In The Presence Of Human Capital As A Mediator Variable

العلاقة بين الذكاء الاستراتيجي و الأداء الريادي في ظل وجود رأس مال البشري كمتغير وسيط

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### Abstract:

This paper aims to study the impact of strategic intelligence on entrepreneurial performance in the presence of human capital as a mediating variable in small and medium enterprises in the state of Tindouf (Algeria). 105 questionnaires were distributed to small and medium enterprises, then we analyzed the data and tested the hypotheses using structural equations modeling ( PLS-SEM), the results found that there is an effect of strategic intelligence on both entrepreneurial performance and human capital, with a weak effect of human capital on entrepreneurial performance, finally we can say that human capital is not considered a mediator with a positive effect between strategic intelligence and entrepreneurial performance of small and medium enterprises under study.

**Keywords:** strategic intelligence; entrepreneurial performance; human capital; small and medium enterprise; structural equations modeling.

**JEL Classification Codes:** D91, D81

### ملخص:

تهدف هذه الورقة البحثية إلى دراسة أثر الذكاء الاستراتيجي على الاداء الريادي بوجود رأس مال البشري كمتغير وسيط في المؤسسات الصغيرة والمتوسطة بولاية تندوف (الجزائر). تم توزيع 105 استمارة استبيان على المؤسسات الصغيرة و المتوسطة، ثم قمنا بتحليل المعطيات واختبار الفرضيات باستخدام النمذجة بالمعادلات الهيكلية (PLS-SEM)، توصلت النتائج إلى وجود أثر للذكاء الاستراتيجي على كل من الاداء الريادي و رأس مال البشري، مع وجود اثر ضعيف لرأس مال البشري على الاداء الريادي، وفي الأخير نقول أن رأس مال البشري لا يعتبر وسيط ذو تأثير إيجابي بين الذكاء الاستراتيجي والأداء الريادي للمؤسسات الصغيرة و المتوسطة محل الدراسة.

**كلمات مفتاحية:** الذكاء الاستراتيجي، الأداء الريادي، رأس مال البشري، المؤسسات الصغيرة و المتوسطة، النمذجة بالمعادلات الهيكلية.

**تصنيفات JEL :** D81 ،D91

## **1- INTRODUCTION:**

Through this research, we shed light on the issue of strategic intelligence, as it has a wide impact on the development of field reality and achieving the entrepreneurial performance of contemporary small and medium enterprises, in addition to the importance of the human resource and the role it plays in the formation of human capital within a strategic vision that achieves excellence and access to leadership positions in a highly competitive market, and to ascertain the relationship between these variables. We chose a group of small and medium enterprises in Tindouf – Algeria as a field for the practical side because of its importance in achieving local development in the state. Based on this perception, the following problem was raised:

### **1-1 Importance of the study**

The importance of this research appears through the following axes:

- Considered as an attempt to frame the theoretical and applied contributions to the subject of the mediating role of human capital in the relationship between strategic intelligence and achieving the entrepreneurial performance of small and medium enterprises in Algeria.
- Clarifying the impact of strategic intelligence on entrepreneurial performance of enterprises in light of current and future environmental changes, planning and predicting results in a way that reflects positively on the enterprise to achieve entrepreneurial performance.
- suitability of the variables of the study with small and medium enterprises, considering that the small and medium enterprises sector represents one of the important sectors that contribute to the process of development in country's economy, especially if these enterprises are leader in their field.

### **1-2 Objectives of the study**

Through this study, we are trying to achieve a number of objectives; the most important are the following:

- Writing on the subject of entrepreneurship as a necessity, and on the other hand, the difference in the presentation of scientific material can be the basis for the desired benefit.
- Researching the issue of strategic intelligence and its impact on the entrepreneurial performance of enterprises.
- Highlighting human capital as a strategic necessity to achieve entrepreneurial performance.
- Providing some suggestions as a contribution to develop the performance of small and medium enterprises in Algeria.

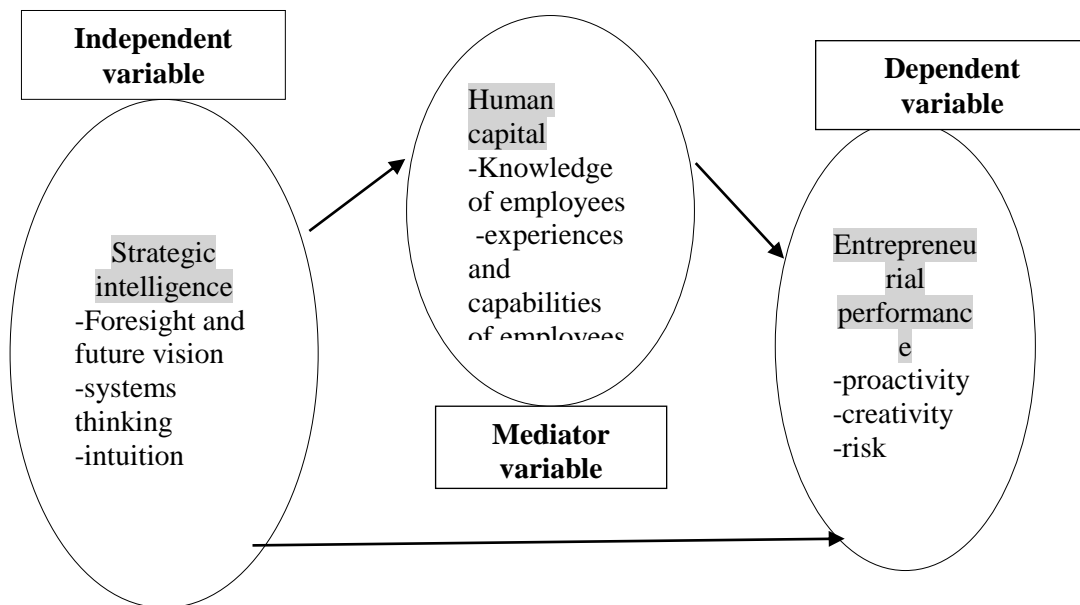
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**1-3 Study model:**

The model represents a simplified depiction that shows a set of related variables. For the purposes of this research, a test chart was prepared that gives a preliminary vision of a set of correlation and influence relationships between the research variables, which may be in the form of quantitative or qualitative with Human capital as a mediating variable.

**Figure (1): Study model**



Source: designed by the researchers

**1-4 Study hypotheses:**

In order to achieve the objectives of the study, the hypotheses were formulated as follows:

- Strategic intelligence effects the entrepreneurial performance of small and medium enterprises.
- Strategic intelligence effects human capital in small and medium enterprises.
- There is an indirect effect of strategic intelligence on entrepreneurial performance, with the presence of human capital as a mediating variable in small and medium enterprises.

**1-5 Study Method:**

Based on the nature of the topic and the objectives that we seek to achieve through the study, we have used the descriptive analytical method through which we try to describe strategic intelligence and its impact on entrepreneurial performance in small and medium enterprises with the presence of human capital as a mediating variable. The phenomenon is an accurate description, qualitatively and quantitatively, in order to reach results, where the research was divided into two main parts, as the first part dealt with the presentation of the

methodology used and the theoretical side of the study, while the second part dealt with the practical side of the study in addition to presenting the results reached, conclusions, and Recommendations.

## **2- Literature review**

2-1 Nidal Abdel-Hadi Omran, Al-Furat Al-Awsat Technical University, 2015, where the research aimed to study “the impact of strategic intelligence on organizational creativity. In this context, a study was conducted in the Asiacell Communications Company” on a purposeful sample that included (39) experts in the company, the study aimed to clarify the importance of strategic intelligence in organizational creativity and its impact on success and creativity of the company and its role in organizational change processes in order to achieve organizational creativity. The results of the research showed that strategic intelligence with all its components has an impact on achieving the ability of creativity of the researched company, as the company benefited from the experience and skill of thinking of its managers in influencing the maturation of creative thinking, while there was a lack of the researched company in investing the principle of partnership. (omran, 2015)

Our study is similar to the current study in examining one of the variables of the subject represented in strategic intelligence (the independent variable) and also the use of a questionnaire to collect information and data.

2-2 The second study was a critical review of a group of research papers that included 104 experimental studies aimed at dismantling the structure of human capital to invest in it through (education, training / experience and employment), which results in capital endowed with (knowledge, skills and capabilities to achieve entrepreneurial performance of enterprises). Giving more accurate dimensions to human capital and stimulating future research in the same field. As for the current study, it is an analytical study that differs from it in studying variables and determining the relationship and correlation between its variables, but it agrees with it in the dimensions of human capital and defining (dimensions of human capital) / identifying points Similarities and differences between concepts. (Sproul, 2016)

2-3 Fadila Salman Dawood, 2016 "entrepreneurial Performance According to Competitive and Strategic Intelligence Exploratory Research in a Sample of Private Banks" (59 people from department managers) for four private banks (the Middle East, the National Investment Bank, Kurdistan Bank, and the National Investment Bank). The study aimed to clarify the relationship between competitive, strategic intelligence, entrepreneurial performance, and an indication of the impact of competitive and strategic intelligence on the entrepreneurial performance of banks. The study concluded that there is a very strong correlation and impact of competitive and strategic intelligence on the entrepreneurial performance of banks. (dawood, 2016)

2-4 the effects of human capital interventions on entrepreneurial performance in industrialized countries

The study dealt with the relationship between human capital and entrepreneurial performance and knowing the extent of the impact of human capital on entrepreneurial performance in

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industrialized countries and deducing the relationship between the variables of the study by extrapolating the results of previous studies.

Adopting human capital as an independent variable without referring to the strategic management necessary for its formation, the researcher used human capital as an independent variable on entrepreneurial performance, as a point of similarity with the current study. (Bram Hogendoorn, 2018)

### **3- Variables of the study:**

To achieve the objectives of the research and test the hypotheses of the study, it is necessary for us to accurately identify its fundamental variables, which are represented in strategic intelligence as an independent variable, human capital as a mediating variable, and entrepreneurial performance as a dependent variable.

#### **3-1 Strategic intelligence:**

In the field of management science, we find that there are many researchers' contributions that enriched the scientific field of intelligence, as it was known that "it helps the individual to think logically, work purposefully, and adapt to the environment that is characterized by movement and change."

Strategic intelligence is defined as "the process or tool for gathering information that determines decision-makers with the knowledge that invites them to make those decisions and enables them to respond to the environment in which the enterprise is located, and then analyze the information to accelerate their capabilities in forecasting, future planning, and adapting to environmental changes, in a sequential framework aimed at The intellectual path toward what is happening now and what will happen in the future. (alazaoui, 2008)

It is also defined as a set of operations aimed of searching for information, processing it, then disseminating and protecting it so that it is within the reach of the right person at the right time to enable him to make the right decision, through the use of the dimensions of strategic intelligence represented in foresight, intuition (foreseeing), strategic vision, systems thinking, partnership and motivation. (Clar, 2008)

At the end we can say that, strategic intelligence achieves excellence by providing the ability to develop strategic solutions to complex work problems and design a systematic and continuous process that helps in the perception and understanding of information by decision makers, through the use of the dimensions of strategic intelligence represented in foresight, intuition (foreseeing), strategic vision, thinking Systems, partnership and motivation.

#### **3-2 Human capital:**

Human capital is one of the components of intellectual capital, characterized by an important characteristic, which is that the economic unit obtains its contributions to the work without owning it directly, as it is an intangible asset. (Taha, 2006)

Human capital was defined as "a combination of elements of knowledge related to skills, accumulation of experience, innovation, creativity, and the ability of the organization's personnel to perform their tasks. Human capital is not subject to ownership by the enterprise." (Taha, 2006)

It was also defined as "all the capabilities and human resources capable of occupying jobs that have the ability to innovate and excel as a result of the ideas, knowledge, experiences and acquired experiences that those workers possess." (Hussein, 2005)

From the foregoing, we conclude that human capital is one of the most important pillars on which any entrepreneurial project is based; it is the main driver of these projects, especially if he possesses the skills, knowledge and experience that qualify it for innovation and creativity.

### **3-3 Entrepreneurial performance:**

Entrepreneurial performance can be defined as following: the process of creating or seizing an opportunity and pursuing it regardless of current resources. (Adams, 2016)

Drucker refers to entrepreneurial performance as a business full of risks because very few businessmen know what they are doing, in addition to that entrepreneurial performance is a practice characterized by planning, decision-making and procedures, and entrepreneurial performance begins with the establishment of new enterprises that may or may not become self-sufficient. Also may never get any big wills. (hamid, 2019)

From the foregoing, entrepreneurial performance can be defined as one of the most important strategies that drive businesses towards achieving the desires and needs of customers, as well as bringing these enterprises to excellence and leadership, by employing the creativity process in adopting new and proactive methods in meeting the needs of customers while taking risks to seize opportunities.

### **4- The practical side of the study**

This part deals with the elements related to the field of study that was conducted on a sample of small and medium enterprises in the state of Tindouf - Algeria, by distributing a questionnaire for the study variables, in addition to analyzing the obtained results.

#### **4-1 Study population and sample:**

To find out the relationship of strategic intelligence to entrepreneurial performance within the presence of an intermediate variable represented in the human capital of small and medium enterprises, we distributed a questionnaire, a sample consisting of 100 enterprises out of a population of 105 small and medium enterprises in Tindouf. Then, the five-point Likert scale was used to answer (strongly agree, agree, not sure, disagree, strongly disagree), the data were treated using SPSS version 25 and Smart PLS version 3.

**Table (1): Distribution of sample members according to the type of activity of the enterprise**

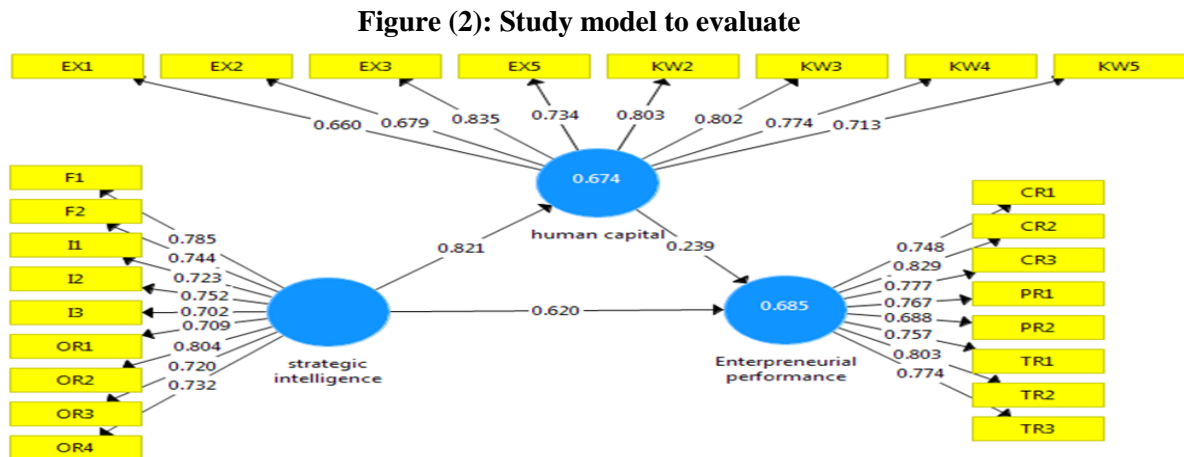
<b>Activity type</b>	<b>Number of enterprises</b>	<b>Percentage</b>
<b>service</b>	45	56.25%
<b>Commercial</b>	21	26.25%
<b>Industrial</b>	14	17.50%
<b>Total</b>	79	100%

Source: SPSS program V25

Through the above table, we notice the distribution of the sample according to the activity of the enterprise, where the highest percentage was for the service sector by 56.25%, followed by the commercial sector by 26.25%, then the industrial sector by 17.50%.

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**4-2 Evaluation of the model**



Source: Smart PLS program

**4-3 Assessment of measurement Model**

The quality of measurement model is determined utilizing Smart PLS program by studying the validity of convergence and compatibility of its elements, through two parts. The first part is the validity convergence and the second part is discriminate validity.

**Table (2): Convergent Validity**

المحور	questions	Loadings	AVE	CR
Strategic intelligence	F1	0.785	0.550	0.917
	F2	0.744		
	I1	0.723		
	I2	0.752		
	I3	0.702		
	OR1	0.709		
	OR2	0.804		
	OR3	0.720		
	OR4	0.732		
Human capital	EX1	0.687	0.566	0.912
	EX2	0.697		
	EX3	0.835		
	EX5	0.734		
	KW2	0.803		
	KW3	0.802		
	KW4	0.774		
	KW5	0.713		
Entrepreneu	CR1	0.748	0.591	0.920
	CR2	0.829		
	CR3	0.777		
	PR1	0.767		
	PR2	0.688		

rial performanc e	TR1	0.757		
	TR2	0.803		
	TR3	0.774		

Source: Smart PLS program

From the above table we can make out that the most of the reliability coefficients for the paragraphs of the questionnaire are acceptable, as they exceed 0.7. also the average explained variance (AVE) is significant, as its significance condition is that it is more than 0.5, and this is obtained in the three axes (strategic intelligence, human capital and entrepreneurial performance), In addition, the value of the composite reliability (CR) for the three axes is more than 0.7 and less than 0.95, which expresses its significance.

Concerning the results of discriminate validity, it includes two criteria, the first is Fornelaker and the second is reliability coefficients:

Table (3): Fornell-Larcker Criterion

	Strategic intelligence	Human resource	Entrepreneurial performance
Strategic intelligence	<b>0.742</b>		
Human resource	0.721	<b>0.752</b>	
Entrepreneurial performance	0.716	0.748	<b>0.769</b>

Source: Smart PLS program

The above table shows that the square root of the explained average variance (AVE), which represents the values that relate each latent variable to itself, which is 0.742 for the strategic intelligence axis, is more than the value of its association with the human capital and entrepreneurial performance axes, whose value is 0.721 and 0.716. This applies also to the two axes which are human capital and entrepreneurial performance with themselves compared to the other two axes; hence that illustrates the quality of the model.

Table (4): Cross Loadings

Ques axe	Strategic intelligence	Human capital	entrepreneurial performance
F1	<b>0.785</b>	0.621	0.677
F2	<b>0.744</b>	0.701	0.616
I1	<b>0.723</b>	0.572	0.649
I2	<b>0.752</b>	0.627	0.631
I3	<b>0.702</b>	0.627	0.581
OR1	<b>0.709</b>	0.647	0.541
OR2	<b>0.804</b>	0.623	0.673
OR3	<b>0.720</b>	0.494	0.542
OR4	<b>0.732</b>	0.593	0.511



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EX1	0.547	<b>0.660</b>	0.437
EX2	0.389	<b>0.679</b>	0.419
EX3	0.691	<b>0.835</b>	0.641
EX5	0.630	<b>0.734</b>	0.607
KW2	0.691	<b>0.803</b>	0.601
KW3	0.761	<b>0.802</b>	0.635
KW4	0.589	<b>0.774</b>	0.571
KW5	0.545	<b>0.713</b>	0.528
CR1	0.601	0.006	<b>0.748</b>
CR2	0.720	0.623	<b>0.829</b>
CR3	0.666	0.543	<b>0.777</b>
PR1	0.540	0.555	<b>0.767</b>
PR2	0.516	0.427	<b>0.688</b>
TR1	0.612	0.716	<b>0.757</b>
TR2	0.693	0.591	<b>0.803</b>
TR3	0.640	0.517	<b>0.774</b>

Source: Smart PLS program

the above table indicates that the reliability coefficients for the items related to the strategic intelligence axis have a higher values in this axis compared to the two axes of human capital and entrepreneurial performance, and the value of the reliability coefficients for the items related to the human capital axis are more than their value in the other two axes, as well as by the value of the reliability coefficients for the items related to the performance Entrepreneurial axis, it is higher in the axis related to it compared to its value in the other two axes, and this indicates the quality of the model.

#### 4-4 Assessment of Structural Model

Table (5): Path Coefficient

hypothesis	Relation between variables	Std Bta	Std Erreur	T قيمة	P	result
<b>H1</b>	Strategic intelligence ← entrepreneurial performance	0.861	0.034	23.728	0.000	<b>significant</b>

<b>H2</b>	Strategic intelligence human capital ←	0.821	0.042	19.606	0.000	<b>significant</b>
<b>H3</b>	human capital ← entrepreneurial performance	0.239	0.125	17.909	0.007	<b>significant</b>
<b>H4</b>	Strategic intelligence human capital ← entrepreneurial performance	0.196	0.108	18.812	0.001	<b>significant</b>

Source: Smart PLS program

Through the above table, we note that all hypotheses are acceptable because the p value is less than 0.05, as strategic intelligence affects both variables human capital and entrepreneurial performance, and human capital directly affects entrepreneurial performance. As for the fourth hypothesis, it is significant Because the p value is less than 0.05, as it reached 0.001, so there is an effect of the mediating variable in the relationship between strategic intelligence and entrepreneurial performance, therefore including that the indirect relationship between strategic intelligence and entrepreneurial performance in the presence of human capital as mediating variable is acceptable.

Table (6): Coefficient of determination

axes	R <sup>2</sup>	result
Human capital	0.671	good
entrepreneurial performance	0.678	good

Source: Smart PLS program

The above table determines that the ability of the independent variable strategic intelligence in explaining the dependent variable human capital has a value of 67.1%, which is good according to (Chin 1998), while the ability of the independent variables strategic intelligence and human capital in explaining the dependent variable entrepreneurial performance is also good, estimated at 67.8 %.

Table (7): Effect Siz F2

axes	F <sup>2</sup>			
	entrepreneurial performance	result	Human capital	result
strategic intelligence	0.398	strong	2,068	strong
Human capital	0.559	strong		

Source:  
Smart  
PLS  
program

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The table number 7 indicates that the ability of the independent latent variable represented by strategic intelligence in interpreting the dependent latent variable represented by entrepreneurial performance is estimated at 39.9%. It is considered a strong interpretation because it is more than 35% and its ability to explain the dependent latent variable represented by human capital is strong, while the mediating variable Human capital explains the dependent variable entrepreneurial performance by 55%, which is a very strong percentage.

**Table (8): Predictive Relevance Q2**

axes	Q <sup>2</sup>	النتيجة
Human capital	0.394	acceptable
entrepreneurial performance	0.365	acceptable

**Source: Smart PLS program**

the above table shows that the ability of the independent variable represented by strategic intelligence in predicting the dependent variable represented by human capital amounted to 0.394, which is acceptable because it is more than 0.3, for the two independent variables represented by strategic intelligence and human capital, their ability to predict the independent variable entrepreneurial performance amounted to 0.365. They are acceptable because they are more than 0%.

Goodness of Fit: This value is calculated by the following equation

$$\sqrt{R^2 * AVE}$$

We notice through the equation that the value of GoF is estimated at 0.619, meaning that the model is very suitable for the study because the value exceeds 0.35.

**Conclusion**

Through this research paper, we tried to investigate the relationship between strategic intelligence and entrepreneurial performance, with the presence of human capital as a mediating variable. Therefore we conducted an analytical questionnaire study for a group of small and medium enterprises in the state of "Tindouf" which is located in south west of Algeria; hence the following results were reached:

**Results:**

- ✓ It was found that strategic intelligence with all its dimensions and components (forecasting, future vision, systems thinking, intuition) effectively affects the performance of the human capital of small and medium enterprises.
- ✓ Strategic intelligence enhances the entrepreneurial performance of small and medium enterprises, through the future vision of entrepreneurs and owners of small and medium enterprises, emerging projects and the inclusion of systems thinking to consider the enterprise as a system consisting of parts interacting with each other, while stimulating human capital (employees) and pushing them to adopt an appropriate point of view to accomplish the work And achieve outstanding leadership performance.
- ✓ There is a strong influence of human capital with its dimension (knowledge and experience of workers, skills and capabilities of workers) on entrepreneurial performance of small and medium enterprises, the strategy that employs them to reach a leading performance.

- ✓ Human capital is one of the most important strategic resources. If not the only resource that enables economic enterprises, especially small and medium enterprises, to maintain their survival, and a basic determinant of their chances of success, growth, and achievement of their strategic goals, and making them capable of creating and achieving a permanent competitive advantage, and ensuring their superiority over their counterparts.
- ✓ The results of the path analysis reflected that human capital plays a mediating role between strategic intelligence and entrepreneurial performance.

### **Recommendations**

Based on the results of our study, we can draw a set of recommendations as following:

- ✓ The enterprises under study should adopt the principle of organized thinking and strategic vision to ensure survival and growth in a competitive market.
- ✓ The enterprises under study should pay great attention to the human resource and consider it an essential part of its strategic vision and an integral part of its general policies.
- ✓ Creativity and innovation are the source of excellence and the only way to achieve entrepreneurial performance, and the enterprises under study cannot reach it without investing in their human resources through training, and encouraging the initiative.
- ✓ By appreciating and respecting competencies, as well as providing material compensation, the enterprises under study can form capable human capital to perform tasks with efficiently, effectively and bringing its enterprises to the ranks of leadership.

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