

The impact of the knowledge economy on the success of strategic planning for small and medium enterprises in Algeria

أثر اقتصاد المعرفة على نجاح التخطيط الاستراتيجي للمؤسسات الصغيرة والمتوسطة في

الجزائر

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Abstract:

the acquisition of knowledge in the right direction must be a real addition to the strategic plans and a starting point for better competitiveness.

This research aims to build the intellectual framework of the knowledge economy and strategic planning in small and medium enterprises(SMEs) by the use of statistical system (SPSS) to reach the results, and determine the correlation of the knowledge economy in the success of strategic planning.

keyword: knowledge economy, strategic planning, SMEs

JEL classification code : XN1, XN2

ملخص:

إن اكتساب وسائل المعرفة في الاتجاه الصحيح يعتبر إضافة حقيقية إلى الخطط الإستراتيجية ونقطة انطلاق لتحسين القدرة التنافسية.

يهدف هذا البحث إلى فهم العلاقة بين الاقتصاد المعرفة والتخطيط الاستراتيجي في المؤسسات الصغيرة والمتوسطة؛ وهذا من خلال استقراء آراء عينة من بعض المشاريع في بسكرة / الجزائر. - بما في ذلك استخدام النظام الإحصائي (SPSS) للوصول إلى النتائج، وتحديد ارتباط اقتصاد المعرفة في نجاح التخطيط الاستراتيجي.

الكلمات المفتاحية : اقتصاد المعرفة ، التخطيط الاستراتيجي للمؤسسات الصغيرة و المتوسطة.

تصنيف JEL : XN1 ، XN2

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Introduction :

As the progress and development of SMEs cannot be achieved beyond strategic plans, strategic concepts are key criteria for evaluating the success of SMEs.

It has many responsibilities, which it needs to improve the level of its strategic plans and create clear-cut, clearly defined strategic plans. Relying on this reality to effectively engage within this ever-growing economy of knowledge..

Here we can ask: How does the knowledge economy affect the construction of successful strategic plans that enable SMEs to achieve their goals?

The research consists of one basic hypothesis, There is a significant correlation between knowledge economy and strategic planning .with four sub-hypotheses

- There is a significant impact relationship between education and training and the dimensions of strategic planning in small and medium enterprises.

- There is a significant impact relationship between research and development and the dimensions of strategic planning in small and medium enterprises.

- There is a significant impact relationship between information technology and the dimensions of strategic planning in small and medium enterprises.

- There is a significant impact relationship between innovation and the dimensions of strategic planning in small and medium enterprises.

The dimensions of the knowledge economy (education and training, research and development, information technology and innovation) represent the independent variables X_i , while the

dimensions of strategic planning (vision, mission, goals, environmental analysis, strategic alternatives and strategic choice) Yi variables.

The field investigation leads us to achieve a set of objectives, which are as follows:

- Try to deepen the understanding of the knowledge that the achievement of strategic plans to serve the growth and sustainability of small and medium enterprises.
- Search for any real link between the idea of the knowledge economy and the success of strategic plans at the level of small and medium enterprises researched in Algeria.

As for the importance the applied study results, is based on the fact that it establishes a new knowledge that SMEs can use to build and develop their strategic plans and support appropriate decision-making based on knowledge.

1. Definition of a Knowledge Economy

The interest of business organizations is intensified, in studying how to make the transition from traditional forms to societies in which knowledge forms the basis for economic progress and achievement.

Knowledge Economy is a system of consumption and production that is based on technology and the knowledge acquired by the workers or intellectual capital.

Traditional economic factors such as monetary capital, physical labor, and raw material, are becoming less important in comparison to the capability of adding value through knowledge development, improvement, and innovation". (Hadad, 2017,p208)

Refers to how society and economies are changing their reliance from the labour and manufacturing of products or goods to an economy that is more reliant on the production and reengineering of information into knowledge. Hence, society and the economy are being transformed from a "physical-based" labour force to a "knowledge-based" one.

The knowledge economy can be defined as: a knowledge-based economy as a strategic and important factor to improve the data and indicators of success of countries and organizations, based on science and technology, and on human resources regarded as real capital.

1.1. first subtitle: The pillars of The knowledge economy.The following pillars are four critical requisites for a country to be able to fully participate in the knowledge economy: (Dincă, 2010,p217.)

Economic incentive and institutional regime: The country's economic and institutional regime must provide incentives for the efficient use of existing knowledge, the acquisition of new knowledge, and the application of both to economic activity in order to improve production, to raise quality, to innovate, and to launch new enterprises.

Education and skills of human resources: Knowledge is an intellectual capital represented by an elite group of workers who have knowledge and organizational abilities to produce new ideas and develop old ideas and learn, it can be assessed by the following indicators:

- Continuous education and training commensurate with the needs of the organization.
- Adult skills, which are skills obtained outside the official circle.
- Worker mobility allows a general picture of the flow of knowledge and skills.

Information and communication infrastructure: In this regard, the United Nations Conference on Trade and Development proposes four measures of ICT infrastructure (United Nations Conference On Trade And Development, 2017,p06):

- Connectivity indicator: number of Internet users, number of computers, main phone and mobile phones.

- Access Index: digital literacy, cost of local calls, personal income
- Policy index: the extent to which policies contribute to R&D funding.
- Usage indicator: communication flow level

Innovation system: Among the most important means that enable institutions to grow and continue and face changes at various levels, and indicators of innovation in institutions:

- Number of new ideas for development in a way that allows them to provide outstanding services to customers.
- Number of new services that differ from previous services in terms of features and usage.
- Cases of change and development of existing business lines in number and form aimed at improving quality.
- The evolution of the market share of the institution, which is expressed by competitive strength.

The following figure summarizes the above.

2. Second title : Strategic Planning for Small and Medium Enterprises.

SMEs are defined as non-subsidary, independent firms which employ fewer than a given number of employees. This number varies across national statistical systems. The most frequent upper limit is 250 employees, as in the European Union. However, some countries set the limit at 200 employees, while the United States considers SMEs to include firms with fewer than 500 employees. Small firms are generally those with fewer than 50 employees, while micro- enterprises have at most ten, or in some cases five, workers. Financial assets are also used to define SMEs. (The OECD , 2000.)

Algeria faced the problem of defining a clear definition of SMEs through the promulgation of Law 1-18 of December 12, 2001 containing the Directive Law for the Promotion of SMEs. It is every enterprise that produces goods or services that: - employs from 01 to

250 workers - Its annual turnover is less than 2 billion Dhs. or its annual revenues is less than 500 million Dhs. - It meets the criteria of independence. (Bouri, 2019,p26.)

2.1. First subtitle : Definition of Strategic Planning

Strategic planning provides a blueprint for achieving organization's goals. There are certain objectives that the organization is trying to satisfy during the execution of the strategic plan. Understanding the organizational objectives of a strategic corporate plan will help to create efficient plans to guide organization's growth. A strategic plan is a document used to communicate with the organizations goals, the actions needed to achieve those goals and all of the other critical elements developed during the planning exercise. (Maleka, 2015,P12.)

Strategic planning is an organizational management activity that is used to set priorities, focus energy and resources, strengthen operations, ensure that employees and other stakeholders are working toward common goals, establish agreement around intended outcomes/results, and assess and adjust the organization's direction in response to a changing environment.

2.2. Second subtitle : Strategic Planning in Small and Medium Enterprises

Strategic planning helps to coordinate and link decisions to achieve goals, anticipate future events, and improve the performance and management skills of small and medium-sized organizations. (Sultani, 2014. In Arabic,p 54)

The most prominent results obtained from the pilot studies related to strategic planning in small and medium enterprises: (Hathway Management Consulting, April 2013,p 11)

- **Immediate benefits** The introduction of strategic planning will immediately spark focus on organizational goals by careful analysis of

the internal and external environment. This awareness often drives better decision making and creates a more realistic set of things to measure against.

- **Near-term benefits (within 6 -18 months)** Strategic planning guides effective strategy-making through coordination and shared purpose. Implementing strategies will have a number of effects. Resource efficiency should improve, and internal communication will become more frequent and more spontaneous. The strategies will require greater problem solving skills, but this will be addressed by a greater sense of togetherness and clarity amongst your team. Your customers will begin to value your renewed vision and focus. All of your strategies will ultimately deliver superior customer value through better need awareness and innovative thinking.

- **Long-term benefits (after 18 months)** The holy grail of strategy is achieving long-term competitive advantage. This takes time because it demands superiority at supply-side and demand-side. The journey to gaining competitive advantage will be noticed by the wider market and you will be more attractive to larger companies who value strategic insight and capability in their partners. The culture of the company will change and be more cohesive and able to shape the future.

- **Evidence of benefits** the SME sector have shown better performance outcomes for those who plan strategically.

2. 3. Third subtitle : Stages and dimensions of strategic planning for small and medium enterprises

Once the ground work has been done, a strategic framework will be put in place. There are several models to choose from, but most share similar characteristics.

One of the first things to determine will be the extent to which your existing strategic thought can be integrated into the planning model. The main objective in strategic planning is to create and articulate the

strategy, and make resource allocation decisions to guide the whole company during the strategy cycle. Secondary objectives include setting goals, managing learning and feedback, and measuring and rewarding results. The length of the cycle will depend on your business, but you will want to measure progress weekly or monthly. In terms of the strategy making itself, there are many routes to take and methods to consider. The objective is always the same: to improve the performance of your organization. (Hathway Management Consulting, April 2013,p15)

3. Applied Study Methodology

3.1 the sample and the used tools of the Study:

The study population included (55) leaders in a sample of nine (09) small and medium enterprises in Biskra, as shown in the following table:

Table 1 : Study population and distribution of questionnaires

| Company name | Specialty | Sector | Number of leaders | Distributed questionnaires | Recovered questionnaires | Accepted questionnaires |
|-----------------------------------|--------------------------------------|------------|-------------------|----------------------------|--------------------------|-------------------------|
| Ziban Garden | Dates manufacturing and conservesion | Industrial | 12 | 12 | 10 | 10 |
| AGRODAT | Dates manufacturin g and conversion | Industrial | 13 | 13 | 10 | 10 |
| Biopharm | Distribution of medicines | Commercial | 12 | 12 | 08 | 06 |
| MBS | Semi-medical pharmaceutical industry | Industrial | 6 | 6 | 06 | 06 |
| Biscofruit | Biscuit industry | Industrial | 6 | 6 | 06 | 06 |
| DAKHEEL BUILDING MATERIALS | Distribution of building materials | Commercial | 2 | 2 | 02 | 02 |

| | | | | | | |
|--------------------|-----------------------------------|------------|-----------|-----------|-----------|-----------|
| Rahmoun RH | Distribution of plumbing tools | Commercial | 2 | 2 | 02 | 02 |
| Maestro net | Cleaning and contracting services | Service | 1 | 1 | 01 | 01 |
| Ben salah | plastic industry | Industrial | 1 | 1 | 01 | 01 |
| total | | | 55 | 55 | 46 | 44 |

Source: Researchers

The questionnaire was divided into three sections: Part I: contains personal data, Part II: includes the variables of knowledge economy and the number (4x4) The third part: contains the strategic planning variable and the number (6 x3). In order to determine the degree of approval of the respondents, the "Likert Five" scale was used, and SPSS 20 was used to analyze the accepted forms.

3.2 The validity of the study tool: Table (2) shows the results of the study tool's stability test (internal consistency of the questionnaire statements):

Table 2 : Study Tool Stability Test Results (Internal Consistency of Questionnaire List Statements).

| Variables | Number of phrases | coefficient alpha de Cronbach |
|--|-------------------|-------------------------------|
| Information and Communication Technology | 4 | .81 |
| research and development | 4 | .82 |
| Education and training | 4 | .82 |
| innovation | 4 | .82 |
| The dependent variable | 18 | .80 |
| Total | 28 | .84 |

Source: Prepared by researchers based on the output of spss20

The above table shows that the values of internal consistency are high (0.84) The consistency of the Cronbach coefficient more than (60%) indicates the consistency and reliability of the data.

3.3 Characteristics of the study sample:

The following table shows the sample characteristics

Table 3: Descriptive Analysis of Demographic Variables Using Frequency and Relative Frequency

| | Category | Repetition | Relative repetition |
|----------------------|--------------------|------------|---------------------|
| Gender | Males | 35 | 79.54 |
| | females | 9 | 20.46 |
| | Total | 44 | 100% |
| Age | Less than 30 | 4 | 9.09 |
| | 30-40 | 17 | 38.63 |
| | 40-50 | 20 | 45.45 |
| | 50 and more | 3 | 6.83 |
| | Total | 44 | 100% |
| Qualification | Senior technician | 12 | 27.27 |
| | University degree | 19 | 43.18 |
| | Master | 8 | 18.18 |
| | else | 5 | 11.36 |
| | Total | 44 | 100% |
| Function | Director general | 12 | 27.27 |
| | administrator | 2 | 2.54 |
| | manager vis | 8 | 18.18 |
| | Head of department | 22 | 50 |
| | Total | 44 | 100% |

| | | | |
|-----------------------------------|--------------|-----------|-------------|
| Number of years Experience | Less than 10 | 23 | 52.27 |
| | 10-15 | 12 | 27.27 |
| | 15-20 | 8 | 18.18 |
| | 20 and more | 1 | 2.27 |
| Total | | 44 | 100% |

Source: Prepared by researchers based on the output of spss20

The table indicates that the gender was in favor of males where they reached 79.54%, while the age group was the largest percentage for the category (50-40) years, where they reached 45.45% .The table also indicates that the largest percentage of educational level University degree 43.18%, and finally the table indicates The largest percentage of the years of experience (less than 10) was 52.27%, and the lowest rate was for the category of (20 years and above) and reached 2.27%.

3.4 Testing the strength of the model

The results of the independent variables test: The pearson correlation coefficient matrix was calculated to determine the relationship between the independent variables.

Table 4: Correlation Matrix

| | | Information and Communication Technology | research and development | Education and training | innovation |
|---|--------------|--|--------------------------|------------------------|------------|
| Information and Communication Technology | correlation | 1 | | | |
| | Significance | 0.001 | 1 | | |
| research and development | correlation | 0.569 | | | |
| | Significance | 0.000 | 0.424 | 1 | |

| | | | | | |
|------------------------|--------------|-------|-------|-------|---|
| Education and training | correlation | 0.490 | 0.001 | | 1 |
| | Significance | 0.001 | 0.610 | 0.372 | |
| innovation | correlation | 0.529 | 0.001 | 0.001 | |
| | Significance | 0.001 | 1 | 1 | |

Source: Prepared by researchers based on the output of spss20

Table 5: Test Results of the Coefficient of variance, the Coefficient of skewness, the Variance Inflation Factor

| | VIF | Coefficient of variance | Coefficient of skewness |
|-------------------------------|------|-------------------------|-------------------------|
| Information and Communication | 1.77 | 0.56 | 0.13 |
| research and development | 1.88 | 0.53 | 0.09 |
| Education and training | 1.38 | 0.72 | 0.05 |
| innovation | 1.73 | 0.57 | 0.06 |

Source: Prepared by researchers based on the output of spss20

Table (5) shows the values of variance inflation test for all variables less than (10), and the value of the variance test allowed for all variables is greater than (0.05), this indicates that there is no statistically significant correlation between independent variables, which enhances the possibility of use in In order to verify the normal distribution of data, the value of the skewness coefficient for independent variables was calculated. Table 7 shows that the skewness

coefficient value is less than (1), which indicates that the study data is distributed naturally.

3.5 The results of the correlation coefficients for the multiple regression model:

The results are as in the table below

Table6 : Linear Correlation (Model Summary).

| Std. Error of the Estimate | Adjusted R Square | R Square | R | Model |
|----------------------------|-------------------|----------|-------|-------|
| 0.2726 | 0.720 | 0.724 | 0.851 | 1 |

Source: Prepared by researchers based on the output of spss20

The table shows the result of calculation of the correlation coefficient (R) which is the value of the relationship between the areas of strategic planning using knowledge economy which has reached (0.851).

The result of the coefficient of determination (R^2) was (0.724). Therefore, the independent variables explained (72.4%) of the changes in the dependent variable and the rest due to other factors.

3.6 The overall significance test for the multiple regression model:

Table (7) presents the results of ANOVA variance analysis for the regression sample significance test:

Table7 : Regression Line Variance Results.

| Model | Sum of Squares | Df | Mean Squares | F | Sig |
|------------|----------------|-----|--------------|---------|-------|
| Regression | 49.741 | 4 | 12.435 | 167.252 | 0.001 |
| Residual | 18.959 | 255 | 0.074 | | |
| Total | 68.7 | 259 | | | |

Source: Prepared by researchers based on the output of spss20

There is a significant (167.252) and a significance level (0.001), thus the regression model is suitable for measuring the causal relationship between the independent variable (strategic planning) and the dependent variable (knowledge economy). As shown in Table (8).

Table 8: Testing the Significance of Multiple Regression Equation Coefficients.

| Independent parameter variables | Unstandardized Coefficients | | standardized coefficients Beta (B) | t | Sig |
|--|-----------------------------|-----------|---------------------------------------|--------|-------|
| | β | St. Error | | | |
| Fixed limit | | | | | |
| Information and Communication Technology | 0.381 | 0.121 | | 3.154 | 0.002 |
| research and development | 0.186 | 0.37 | 0.222 | 5.084 | 0.001 |
| Education and training | 0.031 | 0.31 | 0.045 | 0.987 | 0.324 |
| innovation | 0.559 | 0.35 | 0.621 | 16.069 | 0.001 |
| | 0.106 | 0.35 | 0.132 | 3.045 | 0.003 |

Source: Prepared by researchers based on the output of spss20

Where Table (8) data indicate that there is a significant effect at $\alpha \leq 0.05$ level on media and communication technology,

This is supported by the calculated t values as well as the statistical significance values below the level of significance ($\alpha \leq 0.05$), while research and development did not have a statistical role on the success of strategic planning.

4. Study Results :

4.1 General results:

The study showed that the knowledge domain contributes a medium degree (3.44), which indicates the validity of the main hypothesis: The knowledge economy contributes to the success of strategic planning, where the institutions under study must provide indicators of the knowledge economy to succeed in activating their innovation.

The study showed that there is a statistically significant impact at the level of significance (0.05) for the fields of knowledge economy (information and communication technology, research and development, education, training and innovation) in the success of strategic planning, the study believes that this process ensures that organizations have the knowledge to enable them to Achieve its objectives efficiently and effectively.

The study showed that there is no statistically significant effect at the level of ($\alpha \leq 0.05$) for the field of knowledge economy in research and development at the level of (0.324) on the success of strategic planning. If this dimension is taken care of further, a good competitive position and success will be achieved.

There are no statistically significant differences in adopting the concept of knowledge economy as an input to the success of strategic planning due to the gender variable.

4.2 Testing hypotheses results: the result of The test of sub-hypothesizes are respectly:

The first sub-hypothesis: There is a significant effect between media and communication and the success of strategic planning in terms of its dimensions. Therefore, the first sub-hypothesis is rejected and the alternative hypothesis is accepted.

The second sub-hypothesis: there is a statistically significant impact of research and development on the success of strategic planning in terms

of dimensions, Table (8) shows that the value of (t) calculated (0.987) with a level of significance (0.324) and when comparing the value of the significance level with the value (0.05) It is found that the calculated significance level was greater than (0.05) and therefore the second sub-hypothesis is accepted.

The third sub-hypothesis: There is a statistically significant effect of education and training on the success of strategic planning in terms of its dimensions, Table (8) that the value of (t) calculated (16.069) with a level of significance (0.001) and when comparing the value of the level of significance with the value (0.05), It is found that the calculated significance level was less than (0.05) and therefore reject the third sub-hypothesis of the study and accept the alternative hypothesis, as the table shows that the value of the coefficient (β) has reached (0.559), a value that shows the amount of increase in the field of education and training when it increases The value of strategic planning in one unit.

The fourth Sub-hypothesis: There is a statistically significant effect of innovation on the success of strategic planning in terms of its dimensions. Table (8) shows that the calculated value of (t) was (3.045) with a level of (0.003). The calculated significance level was less than (0.05). Therefore, the fourth sub-hypothesis of the study is rejected and the alternative hypothesis is accepted.

The table also shows that the value of the coefficient (β) was (0.106), a value indicating the amount of increase in the field of innovation when the value of strategic planning increases in one unit.

5. Conclusion :

The study showed that most sources of knowledge economy still need to strengthen management from the point of view of administrators. In light of this study result, the recommendations are summarized as follows:

- Knowledge economy is a must to address the problems faced by organizations in creative ways that allow them to excel and provide everything new in their field through the exploitation of resources, knowledge and skills.
- The need to develop management awareness of the importance of strategic planning for managers to be more prepared to face unexpected scenarios and have the ability to adapt quickly to sudden changes, to achieve everything new and to develop internal resources that enable them to address problems in the future.
- Enable workers to more powers and powers so that they can solve problems and make decisions with the appropriate speed and accuracy.

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