The Contribution of Strategic Information Systems to Achieving & Enhancing the Competitiveness of Algerian Insurance Companies

A Sample Study on Insurance Companies in the Wilaya of M'Sila

ARIOUA Mohad* University of M'Sila Algeria
BOUBAYA Hacene University of M'Sila Algeria
ZEGHBA Talla University of M'Sila Algeria

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Summary: This paper seeks to examine how strategic information systems contribute in the acquisition and maintenance of competitive advantages in Algerian insurance companies. The study was conducted on a sample of insurance companies in the M'Sila Wilaya.

Results showed that strategic information systems implemented by insurance companies contribute to supporting and enhancing competitive advantages by achieving quality, enhancing efficiency, promoting innovation and improving customer service.

Keywords: strategic information; strategic information systems; competitive advantage; insurance companies.

Jel Classification Codes : L19, L12, L86, G22.

ملخص

تهدف هذه الورقة إلى استكشاف كيفية مساهمة نظم المعلومات الإستراتيجية في تحقيق المزايا التنافسية في شركات التأمين الجزائرية والحفاظ عليها، حيث أجريت الدراسة على عينة من شركات التأمين في ولاية المسيلة، وأظهرت النتائج أن أنظمة المعلومات الإستراتيجية التي تنفذها شركات التأمين تساهم في دعم وتعزيز المزايا التنافسية من خلال تحقيق الجودة وتعزيز الكفاءة وتشجيع الابتكار وتحسين خدمة العملاء.

الكلمات المفتاحية: المعلومات الإستراتيجية، نظم المعلومات الإستراتيجية، ميزة تنافسية، شركات التأمين.

تصنيف L19, L12, L86, G22.

* Mohad.arioua@univ-msila.dz

INTRODUCTION:

Insurance companies aim to be successful in their operations and activities, and strive to have a unique, competitive and strategic position that allows them to sustain and to enhance their performance in the work environment. In order to attain these objectives, insurance companies need to have a long-term vision that goes beyond achieving short-term profitability; they must have a clear and comprehensive perception about their activities and operations, namely long-term profitability. Therefore, thinking ahead and analyzing the environmental variables that influence operations are at the very core of the strategic planning process which calls, in turn, for strategic management.

Insurance companies can understand the internal and the external environments only when collecting all the data and information that can help keep up with the changes that are taking place in these environments. By acquiring such facts, insurance companies can enhance their competitive capacities given that this information are the basic foundation for achieving and sustaining competitive advantages and, thus, making relevant strategic decisions. Strategic decision makers are in dire need of strategic information to make adequate strategic decisions; accordingly, the data collection process is carried out in compliance with certain strategic information systems that could earn and enhance the competitive advantage for insurance companies.

I. PROBLEMATIC OF THE PAPER

The main problematic raised by this paper can be summed up in the following question: to what extent do strategic information systems contribute to achieving and enhancing competitive advantages in Algerian insurance companies?

II. HYPOTHESES

This paper investigates the validity of the following hypotheses which have been divided into two branches as demonstrated below:

A. Main hypothesis

Strategic information systems contribute to achieving and enhancing competitive advantages in Algerian insurance companies.

B. Sub-hypotheses

- Strategic information systems contribute to achieving quality in Algerian insurance companies.
- Strategic information systems contribute to enhancing efficiency in Algerian insurance companies.
- Strategic information systems contribute to promoting innovation in Algerian insurance companies.
- Strategic information systems contribute to improving customer service in Algerian insurance companies.

III. SIGNIFICANCE OF THE PAPER

A. This paper sheds the light on the ability of strategic information systems to cater to the needs of information seekers and users. It also focuses on the effective contribution of strategic information systems when it comes to assisting strategic decision makers to make the most adequate decision so as to achieve and enhance competitive advantages, as well as to face the constant

environmental changes and the rapid technological developments that influence the operations of insurance companies.

B. This paper sets a theoretical framework for the role of strategic information systems and the contribution of their outputs to achieving and enhancing competitive advantages in insurance companies.

C. This paper raises awareness about strategic management in Algerian insurance companies. It also highlights the importance of competitive advantages in insurance companies and focuses on the role of strategic information systems in providing the necessary information to achieve and enhance those competitive advantages in insurance companies.

IV. OBJECTIVES OF THE PAPER

This paper aims basically at answering the problematic and checking the validity of the hypotheses. On the one hand, the theoretical part defines competitive advantages and strategic information systems, and discusses the contribution of the later to achieving and enhancing the former. On the other hand, the applied part endeavors to find out to what extent strategic information systems contribute to achieving and enhancing competitive advantages in Algerian insurance companies, in general, and a sample of insurance companies in the Wilaya of M'Sila, in particular.

A. Terminology

1) Strategic information system: A strategic information system is basically a system that provides competitive services and products to a given company allowing it to have strategic advantage over competition in the market. A strategic information system promotes management innovation, enhances operation efficiency, and offers strategic information resources for the company [1].

2) Competitive advantage: A competitive advantage is a special attribute, technique, or resource that allows a company to generate greater values and benefits for its customers than those provided by competitors. This leverage and this differentiation, from customer perspective, generate greater benefits and values, thus, allowing the company to outperform its rivals [2].

It is worth noting here that the competitive advantage is based on the following foundations: exceptional efficiency, quality, innovation and good customer service.

B. Information system as strategic resource for competitive advantage

In order to sustain its leading competitive position, a company must have the right quality information at the right time. This would allow it to make the right decision and have the prompt reaction towards the developments and changes that are taking place in the internal and external environments. Hence, it is crucial to recognize the importance of information systems in enhancing competitive advantages. Financial reporting systems can reduce a product's time-to-market, improve a design's productivity, make good use of creative team skills, run projects well and carry out comprehensive quality management.

V. METHODOLOGY AND PROCEDURES OF THE FIELD STUDY

This section covers the scientific approach used in the field study and defines the chosen population and sample, as well as the research instruments deployed for data collection.

A. Scientific approach

This paper endeavors to estimate to what extent strategic information systems contribute to achieving and enhancing competitive advantages in Algerian insurance companies. The studied sample is a group of insurance companies in the Wilaya of M'Sila. Using the descriptive analytical approach, this paper provides data and facts about the problematic then analyzes thoroughly and interprets the findings for a better and deeper understanding of the studied phenomenon.

The authors of this paper used the case study technique by applying the theoretical framework on a sample of insurance companies in the Wilaya of M'Sila. Furthermore, the authors used two main resources for data:

1) Secondary resources: Secondary resources are used to cover the theoretical framework of this paper; they include pertinent books in Arabic and English languages, periodicals, articles, reports, and previous studies conducted in this subject.

2) Primary resources: Primary resources are used to deal with the analytical aspects of the paper. The authors collected primary data using a questionnaire as a main instrument; it was specifically designed for this purpose and it was distributed to administrative workers in the sample insurance companies. Data was collected, entered and analyzed by means of SPSS software.

B. Population and sample

The population includes all administrative workers in the active insurance companies in the Wilaya of M'Sila. Due to the difficulty of defining precisely the number of employees in all insurance companies in the Wilaya of M'Sila, a random sample of 10 different insurance companies was chosen to conduct this study. Table (1) demonstrates the distribution of the sample, the number and the percentage of questionnaire forms distributed and collected.

According to the table (1), 62 questionnaire forms were distributed to 10 insurance companies; 56 forms were collected with a percentage of 90.32%, 06 forms were lost with a percentage of 09.38%, and 02 forms were excluded because of incomplete data.

C. Research instrument

A questionnaire form was designed as the main study instrument for this paper. In addition to the main objective which is analyzing how strategic information systems contribute to achieving and enhancing competitive advantages in Algerian insurance companies, this paper also seeks to know:

- To what extent strategic information systems contribute to achieving quality in the sample of insurance companies.
- To what extent strategic information systems are used to enhance efficiency in the sample of insurance companies.
- To what extent strategic information systems contribute to promoting innovation in the sample of insurance companies.
- To what extent strategic information systems contribute to improving customer service in the sample of insurance companies.

1) ***Questionnaire design***: The questionnaire form was designed based on previous documents and studies, as well as on the theoretical section of the paper. The form was designed by five-level/point Likert scale as a measurement standard for answering the questionnaire's items that are grouped into four main categories. Table (2) shows Likert scale and the levels of measurement.

In order to determine the distance between the levels of Likert scale, the span was calculated (5-1=4) then divided on the five levels of the scale to get the distance of the level (4/5=0.80). Then, this value was added to the lowest value in the scale; integer one, to determine the highest limit of level one, and so on and so forth.

- **Completely disagree:** the average belongs within the range (01.00 – 01.80).
- **Disagree:** the average belongs within the range (01.80 – 02.60).
- **Neutral:** the average belongs within the range (02.60 – 03.40).
- **Agree:** the average belongs within the range (03.40 – 04.20).
- **Completely agree:** the average belongs within the range (04.20 – 05.00).

The questionnaire form was divided into two sections. The first section is for the sample's general personal information; it has six items: company's name, occupation, gender, age, education level, and years of experience. The second section covers the key categories of the paper: the contribution of strategic information systems to achieving and enhancing competitive advantages in insurance companies. This section contains four categories as highlighted in table (3) which classifies the category title, item numerals, number of items, percentage of each category compared to the full number of items in section two of the questionnaire.

2) Reliability and validity of the research instrument

a) Reliability of the questionnaire: Reliability means that results will be the same if the questionnaire is redistributed more than once under the same circumstances and conditions. In other words, the reliability of the questionnaire implies the consistency of results, i.e. no significant differences are found in case the questionnaire is redistributed to the sample respondents again at certain periods of time. The reliability of the questionnaire was checked using Cronbach's alpha coefficient. Table (4) shows how Cranach's alpha coefficient is used to assess the reliability of the questionnaire.

Table (4) suggests that Cronbach's alpha coefficient of all the categories ranges between (0.854-0.898) which is considered as high coefficients. Cronbach's alpha coefficient of the categories all together is 0.926. This indicates that the value of reliability is high. Similarly, the validity—which is the square root of Cronbach's alpha coefficient—has a high value. The average of all the categories ranges between (0.924-0.947) and the value of validity of all the categories is 0.962, also a high value. Accordingly, the research instrument is proved to be of great reliability, and therefore, the questionnaire is reliable and valid for analyzing and interpreting the findings and testing the hypotheses of this paper.

b) Validity of the questionnaire: Validity means that the questionnaire should measure what it was intended to measure. The validity of this questionnaire was checked via content validity (validity using a panel of experts), internal consistency validity of items, and construct validity of categories.

- *Content validity (Validity using a panel of experts):* The research instrument in its initial design was presented to a panel of 06 experts who are faculty members of the economic, commercial and management sciences faculty at the University of M'Sila. These members are experts in accounting, management, statistics, and financial and baking sciences. The authors of this paper asked the experts to assess whether the statements are pertinent, accurate, coherent and

adequate for their respective categories. The experts were also asked to make modifications when or if deemed necessary, and to express their opinions in regards to data.

- *Internal consistency validity:* Internal consistency of items was calculated based on a pilot study sample of 30 units by calculating the correlation coefficient between each item and the complete level of its respective category. It is noted that correlation coefficients of all items of the four categories are statistically significant at a level of significance (0.05). P-value (sig) of each item is less than (0.05), and the calculated value of the correlation coefficient Ris greater than the table value of the correlation coefficient R which equals 0.351. Hence, the items of the four categories are valid.
- *Construct validity:* Construct validity measures if the objectives set forth by the instrument have been reached. It also shows to what extent each categoryis correlated to the complete level of the items as portrayed in table (5).

According to table (5), the correlation coefficient of all categories to the complete level of items is statistically significant at a level of significance (0.05). P-value (sig) of every category is less that (0.05) and the calculated value of the correlation coefficient R ranges between (0.720-0.873) and they are all greater that the table value of the correlation coefficient R which equals 0.351. Therefore, all the categories of the research instrument are valid.

VI. ANALYZING RESULTS AND TESTING HYPOTHESES

A. Analyzing the general data of the sample

1) Gender

Table (6) shows that there were 37 males with a percentage of 68.52%, and that there were 17 females with a percentage of 31.48%. Male workers are dominant in insurance companies in the Wilaya of M'Sila.

2) Age

Table (7) highlights that there were 26 respondents aged less than 30 with a percentage of 48.15%, while 22 respondents belong to the age category ranging from 30 to 50 with a percentage of 40.74%. Finally, with a percentage of 11.11%, 06 respondents were aged over 50.

3) Education level

It is concluded from table (8) that the absolute majority (96.30%) of respondents hold college degrees, whereas only two respondents (03.70%) are below college level (secondary school).

4) Experience

Looking at table (9), respondents with less than 05 years of experience represent 31.48%. Those whose experience ranges from 05 to 10 years represent 46.30%, whereas those who have an experience of over 10 years represent 22.22%.

5) Occupation

Table (10) shows that 66.67% of respondents occupy administrative worker positions, 18.52% work as heads of services and heads of departments, and 14.81% are directors and vice-directors.

B. Analysis results of the first category's items

The following table illustrates the analysis results of the first category's items by calculating the arithmetic average and the standard deviation and performing the one sample T-test.

Table (11) shows that the level of agreement about the items of category one ranges between (3.920 and 4.180), all being within the "I agree" range; that is to say, respondents agree to all the items of this category. The general average of this category is 4.040. T-test of all the items ranges between (3.165 and 4.614) which is greater than table t estimated to (1.675), and all the items are statistically significant at a level of significance 0.05; P-value (sig) of all the items is less than 0.05.

T-test of category one is estimated to 4.539 which is greater than table t (1.675). This validates the first sub-hypothesis suggesting that strategic information systems contribute to achieving quality in Algerian insurance companies.

Table (12) demonstrates that the level of agreement about the items of category two ranges between (3.898 and 4.040), all being within the "I agree" range; that is to say, respondents agree to all the items of this category. The general average of this category is 3.962. T-test of all the items ranges between (3.047 and 4.391) which is greater than table t estimated to (1.675), and all the items are statistically significant at a level of significance 0.05; P-value (sig) of all the items is less than 0.05.

T-test of category two is estimated to 5.531 which is greater than table t (1.675). This validates the second sub-hypothesis suggesting that strategic information systems contribute to enhancing efficiency in Algerian insurance companies.

Table (13) shows that the level of agreement about the items of category three ranges between (3.612 and 3.898), all being within the "I agree" range; that is to say, respondents agree to all the items of this category. The general average of this category is 3.772. T-test of all the items ranges between (3.114 and 4.090) which is greater than table t estimated to (1.675), and all the items are statistically significant at a level of significance 0.05; P-value (sig) of all the items is less than 0.05.

T-test of category three is estimated to 5.242 which is greater than table t (1.675). This validates the third sub-hypothesis suggesting that strategic information systems contribute to promoting innovation in Algerian insurance companies.

Table (14) explains that the level of agreement about the items of category four ranges between (4.142 and 4.285), all being within the "I agree" range; that is to say, respondents agree to all the items of this category. The general average of this category is 4.228. T-test of all the items ranges between (3.564 and 4.984) which is greater than table t estimated to (1.675), and all the items are statistically significant at a level of significance 0.05; P-value (sig) of all the items is less than 0.05.

T-test of category four is estimated to 5.389 which is greater than table t (1.675). This validates the fourth sub-hypothesis suggesting that strategic information systems contribute to improving customer service in Algerian insurance companies.

Table (15) clarifies that the level of agreement of all categories ranges between (3.772 and 4.228), all being within the "I agree" range; that is to say, respondents agree to all the items of the categories. The general average is 3.984. T-test of all categories ranges between (5.248 and 5.394) which is greater than table t estimated to (1.675), and all the categories of this paper are statistically significant at a level of significance 0.05; P-value (sig) of all the categories is less than 0.05.

T-test of all categories is estimated to 6.979 which is greater than table t (1.675). This validates the main hypothesis suggesting that strategic information systems contribute to achieving and enhancing competitive advantages in Algerian insurance companies.

VII. CONCLUSION

Strategic information systems play a lead role within the context of information system development sequence; they assist the strategic management of insurance companies achieve and enhance competitive advantages most efficiently and effectively, whether be it when making strategic planning or when making strategic decisions. Therefore, the strategic role of an information system lies in providing adequate data about the different environmental circumstances surrounding an insurance company, and using information technology to developits services and potentials. Ultimately, this gives the insurance company a strategic competitive advantage over its rivals in different markets.

VIII. RESULTS

Results of this paper are presented as follows:

- The inputs of strategic information systems include information about the variables of both internal and external environments. This implies that strategic information systems influence the strategic decision-making process by providing necessary information for insurance companies to diagnose internal weaknesses and strengths and spot opportunities and potential threats.
- Strategic information systems have a high ability to process, analyze, save and retrieve data which has a positive influence on achieving and enhancing competitive advantages in insurance companies.
- Strategic information systems provide strategic, comprehensive, constant, clear, accurate, timely, and versatile information to senior management so as to choose its competitive strategies.
- This study concluded that strategic information systems contribute to achieving quality in Algerian insurance companies.
- This study concluded that strategic information systems contribute to enhancing efficiency in Algerian insurance companies.
- This study concluded that strategic information systems contribute to promoting innovation in Algerian insurance companies.
- This study concluded that strategic information systems contribute to improving customer service in Algerian insurance companies.

SUGGESTIONS

Based on the results of this paper, making some suggestions is in order.

- It is of utmost importance to use information as one of the most important and strategic resources of insurance companies. It is most likely considered as the most important resource in the light of the information technology era.
- It is primordial to have a qualified and trained labor force to use information technology techniques throughout all levels of administration in insurance companies. For an optimal use of information technologies, training courses are ought to be organized on both national and international scales.
- It is necessary to diversify data collection tools of the company’s surrounding environment, be it internal or external.

- It is essential for insurance companies to activate the role of strategic information systems in strategic planning and strategic decision-making by making the best use of strategic information systems 'outputs to achieve and enhance competitive advantages.

References:

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[2] J. M. Higgins andJ. W. Vincze, Strategic Management: Text and Cases, 4thed, USA:Saunders College Publishing, 1989, p. 71

Appendices:

TABLE I: SAMPLE AND NUMBER OF DISTRIBUTED AND COLLECTED QUESTIONNAIRE FORMS

N	Insurance company		Collected	Distributed	Lost
01	Regional Rural Cooperation Fund (CRMA)	Number	10	10	00
		Percentage%	16.13	16.13	00
02	Algerian Company for Insurance and Reinsurance (CAAR)	Number	06	06	00
		Percentage%	09.38	09.38	00
03	Algerian company for Insurance (2a)	Number	07	08	01
		Percentage%	11.29	12.90	01.61
04	Algerian Insurance Company (SAA)	Number	05	06	01
		Percentage%	08.06	09.38	01.61
05	Algerian Full Insurance Company (CAAT)	Number	09	10	01
		Percentage%	14.51	16.13	01.61
06	Mediterranean General Insurance Company (GAM)	Number	06	06	00
		Percentage%	09.38	09.38	00
07	International Company for Insurance and Reinsurance (CIAR)	Number	04	04	00
		Percentage%	06.45	06.45	00
08	Safety Insurance Company (Salama)	Number	03	04	01
		Percentage%	04.84	06.45	01.61
09	Alliance Insurance Company (Alliance)	Number	04	04	00
		Percentage%	06.45	06.45	00
10	Trust Insurance Company (Trust)	Number	02	04	02
		Percentage%	03.22	06.45	03.22
Total		Number	56	62	06
		Percentage%	90.32	100	09.38

TABLE II. FIVE-LEVEL LIKERT SCALE

Response	Completely agree	Agree	Neutral	Disagree	Completely disagree
Level	05	04	03	02	01

TABLE III. STUDY SAMPLE AND NUMBER OF DISTRIBUTED AND COLLECTED FORMS

Category number	**Category title**	**Item numerals**	**Number of items**	**Percentage**
01	Quality	01-05	05	22.73
02	Efficiency	06-11	06	27.27
03	Innovation	12-17	06	27.27
04	Customer service	18-22	05	22.73
Score		**01-22**	**22**	**100**

Source: made by the authors based on the collected data.

TABLE IV USING CRONBACH'S ALPHA COEFFICIENT TO MEASURE THE RELIABILITY OF THE RESEARCH INSTRUMENT

Category number	**Categories**	**Number of items**	**Cronbach's alpha coefficient**	**Validity***
01	Quality	05	0.890	0.943
02	Efficiency	06	0.854	0.924
03	Innovation	06	0.881	0.938
04	Customer service	05	0.898	0.947
Total category score		22	0.962	0.962

*Validity = the square root of Cronbach's alpha coefficient

Source: made by the authors based on the collected data and the outputs of the SPSS software.

TABLE V. CONSTRUCT VALIDITY OF THE RESEARCH INSTRUMENT

Categories	**Correlation coefficient**	**Sig value**
Quality	0.865	0.000
Efficiency	0.720	0.000
Innovation	0.849	0.000
Customer service	0.873	0.000

Source: made by the authors based on the collected data and the outputs of the SPSS software.

TABLE VI. SAMPLE RESPONDENTS BY GENDER

Gender	**Male**	**Female**	**Total**
Replication	37	17	54
Percentage %	68.52	31.48	100

Source: made by the authors based on the collected data.

TABLE VII. SAMPLE RESPONDENTS BY AGE

Age category	**Less than 30**	**From 30 to 50**	**Over 50**	**Total**
Replication	26	22	06	54
Percentage %	48.15	40.47	11.11	100

Source: made by the authors based on the collected data.

TABLE VIII. SAMPLE RESPONDENTS BY EDUCATION LEVEL

Education level	**Middle school**	**Secondary school**	**University**	**Total**
Replication	00	02	52	54
Percentage %	00.00	03.70	96.30	100

Source: made by the authors based on the collected data.

TABLE IX. SAMPLE RESPONDENTS BY EXPERIENCE

Years of experience	Less than 05	From 05 to 10	Over 10	Total
Replication	17	25	12	54
Percentage %	31.48	46.30	22.22	100

Source: made by the authors based on the collected data.

TABLE X. SAMPLE RESPONDENTS BY OCCUPATION

Occupation	Director	Vice-director	Head of service	Head of department	Administrative worker	Total
Replication	03	05	06	04	36	54
Percentage %	05.55	09.26	11.11	07.41	66.67	100

Source: made by the authors based on the collected data.

TABLE XI. ANALYSIS RESULTS OF THE FIRST CATEGORY RELEVANT TO THE CONTRIBUTION OF STRATEGIC INFORMATION SYSTEMS TO ACHIEVING QUALITY IN INSURANCE COMPANIES

Stt. N°	Statements	Average	Deviation	T-test	Sig value	Level
01	Information systems used in the company help enhance the quality of the offered products and services according to customers' needs and demands.	4.040	.6980	4.088	0.000	02
02	Information systems used in the company help reduce the costs of the offered quality products and services.	3.920	.6000	4.614	0.000	05
03	Information systems used in the company help face potential changes in the quality of the offered products and services.	3.960	.6680	4.186	0.000	04
04	Information systems used in the company help set quality standards for the products and services provided to clients.	4.040	.9020	3.165	0.000	03
05	Information systems used in the company help employees provide products and services as required.	4.180	.6600	4.474	0.000	01
Total category score		040.4	524.0	4.539	0.000	/

Source: made by the authors based on the collected data and the outputs of the SPSS software.

TABLE XII. ANALYSIS RESULTS OF THE SECOND CATEGORY RELEVANT TO THE CONTRIBUTION OF STRATEGIC INFORMATION SYSTEMS TO ENHANCING EFFICIENCY IN INSURANCE COMPANIES

Stt.N°	Statements	Average	Deviation	T-test	Sig value	Level
06	Focusing on strategic information systems contributes to increasing coordination and integration among different operations and units within the company.	4.040	0.644	4.391	0.000	01
07	Information systems used by the company contribute to enhancing operation efficiency and promoting innovation.	3.898	0.822	3.316	0.000	05
08	Information systems used by the company have the ability to carry out operations and provide strategic information for companies and	3.898	0.895	3.047	0.000	06

	customers.					
09	Information systems contribute to making the products and services offered by the company stand out in the midst of what other competing companies are offering in the market.	3.938	0.689	3.999	0.000	04
10	Information systems help the company adopt different ways, techniques and strategies required for enhancing operation efficiency.	3.959	0.675	4.101	0.000	03
11	Information systems used by the company help make the best use of the company's different resources.	4.040	0.675	4.185	0.000	02
Total category score		3.962	0.501	5.531	0.000	/

Source: made by the authors based on the collected data and the outputs of the SPSS software.

TABLE XIII. ANALYSIS RESULTS OF THE THIRD CATEGORY RELEVANT TO THE CONTRIBUTION OF STRATEGIC INFORMATION SYSTEMS TO PROMOTING INNOVATION IN INSURANCE COMPANIES

Stt N°	Statements	Average	Deviation	T-test	Sig value	Level
12	Information systems used by the company help promote innovation and create initiation opportunities.	3.795	0.706	3.761	0.000	04
13	Information systems used by the company contribute to the development and diversification of products and services so as to meet the needs and demands of current and potential customers.	3.836	0.656	4.090	0.000	02
14	Information systems used by the company facilitate research and development processes.	3.612	0.811	3.114	0.000	06
15	Information systems used by the company contribute to breaking restrictions and making reconstructions to grow and cope with the environmental changes and developments.	3.653	0.751	3.403	0.000	05
16	Information systems are considered as a helpful and effective factor in finding solutions for many management problems in the company.	3.898	0.742	3.673	0.000	01
17	Information systems used by the company contribute to widening the scope of innovation and creativity in providing products and services.	3.836	0.850	3.159	0.000	03
Total category score		3.772	0.503	5.242	0.000	/

Source: made by the authors based on the collected data and the outputs of the SPSS software.

TABLE XIV. ANALYSIS RESULTS OF THE FOURTH CATEGORY RELEVANT TO THE CONTRIBUTION OF STRATEGIC INFORMATION SYSTEMS TO IMPROVING CUSTOMER SERVICE IN INSURANCE COMPANIES

Stt N°	Statements	Average	Deviation	T-test	Sig value	Level
18	Information systems used by the company facilitate reaching customers, responding quickly	4.265	0.700	4.262	0.000	02

	to their demands, and meeting their expectations.					
19	Information systems help customers stay in touch with the company and allow them to participate in shaping the provided products and services.	4.244	0.596	4.984	0.000	03
20	Information systems used by the company contribute to facing potential changes in the quality of products and services according to customers' needs.	4.142	0.764	3.797	0.000	05
21	Information systems help the company concentrate on customers' needs and demands by providing quality products and services that match their expectations.	4.204	0.763	3.855	0.000	04
22	Information systems used by the company contribute to reducing the time required for solving customer problems.	4.285	0.841	3.564	0.000	01
Total category score		4.228	0.549	5.389	0.000	/

Source: made by the authors based on the collected data and the outputs of the SPSS software.

TABLE XV. ANALYSIS RESULTS OF ALL CATEGORIES RELEVANT TO THE CONTRIBUTION OF STRATEGIC INFORMATION SYSTEMS TO ACHIEVING AND ENHANCING COMPETITIVE ADVANTAGES IN INSURANCE COMPANIES

Cat. N°	Category title	Average	Deviation	T-test	Sig
01	Quality	4.040	0.524	5.394	0.000
02	Efficiency	3.962	0.501	5.531	0.000
03	Innovation	3.772	0.503	5.248	0.000
04	Customer service	4.228	0.549	5.389	0.000
Total category score		3.984	0.403	6.979	0.000

Source: made by the authors based on the collected data and the outputs of the SPSS software.

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