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The Relation of the Decision Support System and the Business Process Re-engineering

Firas Jamil Al-otoum[1]

Abstract

This is an exploratory study that aims to show the impact of the decision support system and the business process Re-engineering at private Jordanian companies. Exploratory researches are very useful in the absence of clearly researched and fully understood information about a subject, and or in the premature stages of development of theories. Quantitative approach will be the main method for conducting this study, survey will be the main data collection procedure to investigate the impact of internal marketing on internal service quality and corporate performance.

JEL classification numbers: C440
Keywords: Decision support system, business process, Re-engineering.

1 Introduction:

The success and progress business sector is making nowadays is highly due to the fact of adapting and following the elements of modern management thought. These elements are considered of logical nature because of the results they have made over the recent decades. The active and high ranked management of the business sector is the one that is concerned at having a complete structure involving purposes, activities, as well as human and material factors (Daft, R. 2001). To end this, many world variables have enforced the business sector to take serious steps to become able to come up with changes and renewal. The result of these variables was the emergence of several trends and approaches in the contemporary management thought that would contribute to the development and management of the business organizations and the development of their performance. Among the most prominent trends and approaches of those is what known as the approach of re-engineering (Dennis, A, et, al 2003). That is because of the emergence of international changes that happened at the end of the 20 century. Such changes affected the business sector in a way of establishing an advanced set of techniques and methods

[1]Marketing department, Isra university, P.O Box 22, code 11622, Amman – Jordan.

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which basically depend on computer. Hence, the success of any information system is linked to the extent to which it affects the performance of the administration in planning, assessment and control. This effect is linked to what those systems offer; including data and information about alternatives available to decisions makers in order to solve outstanding and future problems to realize needed purposes (Flett, et, al, 2008).
Therefore, the fact of adopting a proper scientific approach or trend to get such The necessity of adapting the approach of re-engineering is highlighted to the business sector because of the challenges that sector is facing; firstly, what involves the matter of its suffering from the lack of good decisions, lack of making decisive decisions, and the absence of cooperation between its stuff; Secondly, what involves the quality of the business sector itself which is a logical result of the poor investment of human resources and bad time management; thirdly, what involves the low ability of the business organizations in qualifying its graduates to suit the requirements of the labor market and this is because of the inaccuracy of information systems statistics; fourthly, what involves facing the future expectations which is because of the ambiguity of the purpose of such organizations among their employers. The 21 century management should understand the technologies of information and communications, design its organizational structures in line with the availability of information among systematic levels, not to consider those technologies as an additional factor but active one that is involved in the organizations and to add to its concern the element of time as well as its investing to communications, information and technologies (Laudon, et. Al, 2008**).**

2 Problem Definition

The organizations nowadays face many changes and conflicts, whereas the world became controlled by the globalization and computer, and the laws of market economy, due to the scientific revolutions and recent breakthroughs, with the mass revolution of communication and electronic fields.
The importance of developing the performance through applying the Administrative forms of modern management, which lead to insure that it is important to benefit form the various types of management information systems such as decision support systems and how it effects on the increasing speed of decision making and improve the observations and supervising also improve the services quality and the presenting it rapidly with all its types. The business process re-engineering basically comes from one general principle which as that all organizations despite their size succeeds or fails as a result of the nature of the structure.

2.1 The Importance of the Study:

1. Scientifically;
This study is significant since it is novel and as far as the researchers knows this research is the first to address the relationship between the systems of decisions support and re-engineering in business sector in private Jordanian companies. The study would enrich the Arab library since it is new and distinctive. It will encourage many researchers to conduct more studies in this field which, in turn, can develop such field in the future.
2. Applicably;

This study draws the attention of the Jordanian business sector administrators about the importance and use of the systems of decisions support. It highlights the weak and strong points caused by using it. Therefore, this study presents a complete and comprehensive view of the systems of decisions support and the importance of applying them. The study may help the administrators of Jordanian business organizations to be in line with the modern management thought that can be applied such as re-engineering in the Jordanian business sector. The study also is important because of the urgent necessity of the Jordanian business sector to raise its level of performance, save its human and financial power, improve its services and re-design the administrative process to be in line with the requirements of the time.

2.2 Research Objectives: the Aim of this Study is

1. To identify the extent the relationship between the systems of decisions support and re-engineering in private business sector in Hashemite Kingdom of Jordan.
2. To investigate the nature of the relationship between the systems of decisions support and re-engineering in private business sector in Hashemite Kingdom of Jordan.

2.3 Hypothesis of study:

First hypothesis: there is a statistical significance relation at the level of ($a \leq 0.005$) among the decision support systems and BPR in the business organizations.
This hypothesis has sub-hypothesis, as the following:

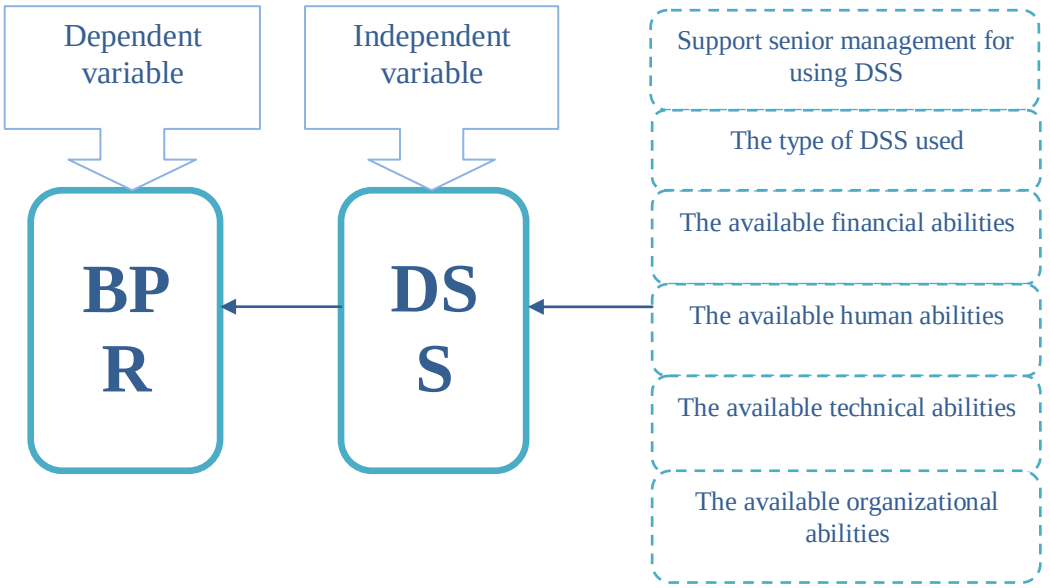
1. There is a statistical significance relation at the level of ($a \leq 0.005$) between the support of the senior management in using DSS and the BPR in the business organizations.
2. There is a statistical significance relation at the level of ($a \leq 0.005$) between the available financial abilities for using DSS and BPR in the business organizations.
3. There is a statistical significance relation at the level of ($a \leq 0.005$) between the available human abilities for using DSS and BPR in the business organizations.
4. There is a statistical significance relation at the level of ($a \leq 0.005$) between the available technical abilities for using DSS and BPR in the business organizations.
5. There is a statistical significance relation at the level of ($a \leq 0.005$) between the available organizational abilities for using DSS and BPR in the business organizations.
6. There is a statistical significance relation at the level of ($a \leq 0.005$) between one type of the used DSS and BPR in the business organizations.

Second hypothesis: there are a statistical significance differences between the despondence of the researchers at the level of ($a \leq 0.005$) about the relation between DSS and BPR in the business organizations which is a result of the personal changes (sex, age, educational qualification, business experience, years of experience).

2.4 Study Terms of Theoretical Frame Work

1. Decision Support Systems (DSS): it is one of the information systems that are based on computer. It functions as a facilitator of the process of interaction between the human element and IT in order to produce information suitable for the users' requirements (Ranjanathan,C. Dhaliwal, Jasbir S. 2001).

2. Re – Engineering: it is to re-think basically and re-design administrative process fundamentally in order to achieve core super improvements in the decisive standards of performance such as cost, quality, and service and speed (Smith, 1994). Of the decision support system and the business process Re-engineering. The researcher will discuss in brief address the decision support system and the business process Re-engineering.



2.5 Theoretical Framework

Delic, K.A, et. al (2001) define decision support system (DSS) as a computer-based information system which functions as a business supporter and/or organizational decision-making actions. DSSs supply administrations, operations, as well as planning levels of any organization and assist to make decisions that possibly rapidly change and get but not easily specified beforehand**.**

Gadomski, A.M. et al.(2001) suggest that DSSs take account of knowledge-based systems. A as it should be designed, DSS is an interactive system which is based on software and intended to help in making decision and obtain useful data from a combination of raw information, documents, personal facts, or business models.

3 Literature Review

Reengineering in business refers to the analysis and design of the workflows analysis and design as well as the processes within organizations. Karen Rasmussen (1999) suggests that business process means a cluster of logically associated tasks carried out to accomplish a distinct business result. Re-engineering is the source for several latest developments in administration. For instance, the cross-functional concept has become common due to the need to re-engineer separate functional duties into total cross-functional processes. Furthermore, the developments of many systems of the current management information aim at integrating a large number of business functions. Such

functions can include project resource planning, management of supply chain, and knowledge management systems.

Business reengineering is also known as business process redesign, business transformation, or business process change management.

Business process reengineering (BPR) began as a private sector technique to help organizations fundamentally rethink how they do their work in order to dramatically improve customer service, cut operational costs, and become world-class competitors. A key stimulus for reengineering has been the continuing development and deployment of sophisticated information systems and networks. Leading organizations are becoming bolder in using this technology to support innovative business processes, rather than refining current ways of doing work (Rick Dewar et al, 1999).

Business Reengineering is principally the elementary re-thinking and fundamental re-design, done to an organization's obtainable resources. It exceeds just business improvising. It is a discipline for re-designing the way in which work is done to better foster the organization's task as well as decrease costs. It begins with a high-level evaluation of the organization's task, strategic objectives, and customer needs. Vital questions are to be asked, for example does our task need to get redefined? Are our strategic objectives alongside our task? What is the kind of our customers? An organization is more probably to find that it is operating on uncertain assumptions, mainly involving the needs of customers thereof. Just after the organization rethinks what it have to do, and hence does it continue to decide how the best to do it is (Feldmann.G, 1998).

Within the framework of such core evaluation of mission and aims, reengineering concentrates on the business processes of an organization that are the steps and practices that rule how resources are utilized to create products and services which can meet the needs and wants of exacting customers or markets. Considered a structured work steps ordering across time and place, the business process can be decayed into particular activities, considered, modeled, and enhanced. It can as well be totally redesigned or removed in general. Reengineering can identify, analyze, and redesign an organization's basic business processes aiming to achieve vivid improvements in decisive performance measures, for example cost, quality, service, and momentum (Altinkemer, A, et.al 1998).

4 Researcher Methodology

This section discusses the research design, research sample, questionnaire, research procedures, and the reliability of the questionnaire. Finally, we will go through the process and the analysis of the data.

4.1 Research Sample

Research sample consists of (50) employs at (5) industry companies the study sample was divided to (17) manager, deputy manager (22) and (11) head of department in industry companies.

Table 1: Sample distributions and properties

Percentage	Frequencies	Category	Variable
48.0	24	Male	Gender
52.0	26	Female	
32.0	16	Less than 25 years	Age
40.0	20	More than 25yaears-Less	
28.0	14	More than 35yaears-Less	
46.0	23	Diploma	Education Level
38.0	19	Bachelor	
16.0	8	Master	
34.0	17	Manager	Work Environment
44.0	22	Deputy Manager	
22.0	11	Head of department	
36.0	18	Less than 5 years	Service Years
40.0	20	More than 5yaears-Less	
24.0	12	More than 10 years	

4.1.1 The questionaire

The researcher will use the questionnaire method as data generation method to collect data; the researcher intends to investigate The impact of the decision support system and the business process Re-engineering. However, the best source of information available for determining those effects are given by one survey which contain sex dimension and every domain consist of a group of categories (question 1-5) will be devoted to ask about the age, gender, work environment, education level, and service years.
a summated rating scale format is used, with 5 choices per item ranging from "strongly agree" to "strongly disagree".

4.2 Data Reliability

In this study Chronbach's alpha was used, which is the most common test for data reliability. It is a measure of how well each variable in a scale correlates with the sum of the remaining variables. Thus, the current study will use this method to measure data reliability

4.2.1 Procedures

Data will be taken from the sample study (manager, deputy manager and head of department) of industry companies in Jordan. After organizing a meeting with the respective workers which are included in the search sample, the participants agreed to be part of the study, they were provided with a written explanation outlining the purpose of the study (Appendix 1&2) and by completing the questionnaires they provided their consent to be part of the study. The questionnaire was distributed to manager, deputy manager and head of department who are working in industry companies in Jordan which we have mentioned them previously. The completed questionnaires were collected from the sample of study. Confidentiality and anonymity of the participants are protected as their names won’t be required on the questionnaires, a non-probability method, to make

sure that key categories of respondent are covered. It helped to choose more qualified experts in order to have the best feedback about the contents of the questionnaires.

4.3 Data Processing and Analysis

After the questionnaires were completed and collected, data would be entered into the SPSS software package for statistical analysis. This software will be used to investigate the impact of internal marketing on internal service quality and corporate performance. On the other hand to measure of the impact of the decision support system and the business process Re-engineering based on the demographical differences among the sample of study which are gender, age, education level, work environment and service years. There is no doubt that a dedicated statistical package such as SPSS represents a more appropriate platform for data analysis than a basic spreadsheet package such as Excel. Data was reported as frequency counts and percentages.

4.3.1 Data Collection

Collected of international related literature to represent the topic, Different sources for the data bases have been used to help in writing the literature and the methodology of this research.

Table 2: Properties of study dimensions:

Alpha	Domain	**Number**
0.70	Senior Management support for using decision support	**1**
0.61	available physical potential for using decision support	**2**
0.64	available human potential for using decision support	**3**
0.66	available technical possibilities for using decision support	**4**
0.39	available organizational potential for using decision	**5**
0.62	Type of decision support systems used	**6**
0.74	Re-engineering	**7**
0.77	Instrument as a whole	

To answer the first question which stipulates that there is relation with statistically significant between Senior Management supports for using decision support system and re-engineering in Jordan industry companies
Was conducted by Pearson's correlation coefficient between the first Category, in which Senior Management stipulates for using decision support system and the domain VII, which provides for "re-engineering".

Table 3: Pearson's correlation coefficient

Significance level	**correlation coefficient**
.002	.392**

Table number (3) indicates that there is a correlation with statistically significant between the answer of study sample members about the first domain which statistically available Senior Management support for using decision support system and the domain VII, which

provides for "re-engineering in which the value of correlation coefficient (0.392), the value of Significance level (0.002) and its value with statistically Significance level **(0.05≥α).**

For answering the second question which stipulates that there is relation with statistically significant between available human potential for using decision support system and re-engineering in Jordan industry companies.

Was conducted by Pearson's correlation coefficient between the second, in which provides for Senior Management stipulates for using decision support system and the domain VII, which provides for "re-engineering"

Table 4: Pearson's correlation coefficient

Significance level	correlation coefficient
.000	.457**

Table number (4) indicates that there is a correlation with statistically significant between the answer of study sample members about the second domain which statistically available physical potential for using decision support system and the domain VII, which provides for "re-engineering in which the value of correlation coefficient (0.457), the value of Significance level (0.000) and its value with statistically Significance level **(0.05≥α).**

For answering the third question which stipulates that there is relation with statistically significant between available human potential for using decision support system and re-engineering in Jordan industry companies.

Was conducted by Pearson's correlation coefficient between the third domain, in which stipulates for human potential using decision support system and the domain VII, which provides for "re-engineering".

Table 5: Pearson's correlation coefficient

Significance level	correlation coefficient
.000	.503**

Table number (5) indicates that there is a correlation with statistically significant between the answer of study sample members about the third domain which statistically available human potential for using decision support system for using decision support system and the domain VII, which provides for "re-engineering in which the value of correlation coefficient (0.503), the value of Significance level (0.000) and its value with statistically Significance level **(0.05≥α).**

For answering the fourth question which stipulates that there is relation with statistically significant between available technical possibilities for using decision support system and re-engineering in Jordan industry companies.

Was conducted by Pearson's correlation coefficient between the fourth domain, in which stipulates for available technical possibilities using decision support system and the domain VII, which provides for "re-engineering".

Table 6: Pearson's correlation coefficient

Significance level	correlation coefficient
.004	.368**

Table number (6) indicates that there is a correlation with statistically significant between the answer of study sample members about the fourth domain which statistically available technical possibilities support system for using decision support system and the domain VII, which provides for "re-engineering in which the value of correlation coefficient (0.368), the value of Significance level (0.004) and its value with statistically Significance level **(0.05≥α)**.

For answering the fifth question which stipulates that there is relation with statistically significant between available technical possibilities for using decision support system and re-engineering in Jordan industry companies.

Was conducted by Pearson's correlation coefficient between the fifth domain, in which stipulates for available organizational potential for using decision support system and the domain VII, which provides for "re-engineering".

Table 7: Pearson's correlation coefficient

Significance level	**correlation coefficient**
.005	.359**

Table number (7) indicates that there is a correlation with statistically significant between the answer of study sample members about the fifth domain which statistically available organizational potential support system for using decision support system and the domain VII, which provides for "re-engineering in which the value of correlation coefficient (0.359), the value of Significance level (0.005) and its value with statistically Significance level **(0.05≥α).**

For answering the sixth question which stipulates that there is relation with statistically significant between available organizational potential for using decision support system and re-engineering in Jordan industry companies.

Was conducted by Pearson's correlation coefficient between the sixth domain, in which stipulates for available organizational potential for using decision support system and the domain VII, which provides for "re-engineering".

Table 8: Pearson's correlation coefficient

Significance level	**correlation coefficient**
.001	.440**

Table (8) indicates that there is a correlation with statistically significant between the answer of study sample members about the sixth domain which statistically Type of decision support systems used and the domain VII, which provides for "re-engineering in which the value of correlation coefficient (0.440), the value of Significance level (0.001) and its value with statistically Significance level **(0.05≥α)**.

For answering the seventh question which stipulates that there is relation with statistically significant between available participants response support system and re-engineering in the Palestinian universities in Gaza Strip according to the variable Gender, age, Education Level, Work Environment and Service Years.

First: to collect differences with statistically significant between responses of participants in the study sample in studies categories according to the gender, the research had used(T) test, the table indicates the test result.

Table 9: Mean and std. deviation and (T) value for participant study sample response according to gender variable

Group Statistics					
	Gender	**Mean**	**Std. Deviation**	**Value (T)**	**Significance level**
Senior Management support for using decision support system	Male	2.7557	.40546	.240	.438
	Female	2.7850	.42775		
available physical potential for using decision support system	Male	2.7818	.49727	1.631	.041
	Female	2.4960	.67607		
available human potential for using decision support system	Male	3.2182	.68981	.330	.923
	Female	3.1520	.68137		
available technical possibilities for using decision support system	Male	3.1494	.65758	.245	.955
	Female	3.1029	.64222		
available organizational potential for using decision support system	Male	2.9909	.68862	.628	.429
	Female	2.8800	.51962		
Type of decision support systems used	Male	3.1545	.69538	1.079	.046
	Female	2.9760	.42158		
Re-engineering	Male	2.6727	.52530	.603	.814
	Female	2.5787	.54014		

Table (9) indicates that the differences between the members of the study sample according to gender variable which come with statistically significant at the level of significance ($\alpha \leq 0.05$) in the second domain, which states available physical potential for using decision support system and in the sixth domain, which states Type of decision support systems used the deference was in favor of six domain with () mean value.

Second: One Way Nova according to age variable

Table 10: One Way ANOVA to indicates the effect of age on the response of participant sample

Group Statistics						
	Nova sources	**Squares sum**	**Free degree**	**Square mean**	**(F)** value	**correlation coefficient**
Senior Management support for using decision support system	Between groups	.661	2	.331	2.089	.135
	Groups inside	7.441	47	.158		
	Total	8.103	49			
available physical potential for using decision support system	Between groups	2.636	2	1.318	3.938	.026
	Groups inside	15.729	47	.335		
	Total	18.365	49			
available human potential for using decision support system	Between groups	.144	2	.072	.135	.874
	Groups inside	25.089	47	.534		
	Total	25.233	49			
available technical possibilities for using decision support system	Between groups	.349	2	.174	.435	.650
	Groups inside	18.852	47	.401		
	Total	19.200	49			
available organizational potential for using decision support system	Between groups	.141	2	.071	.187	.830
	Groups inside	17.779	47	.378		
	Total	17.921	49			
Type of decision support systems used	Between groups	.307	2	.154	.465	.631
	Groups inside	15.552	47	.331		
	Total	15.859	49			
Re-engineering	Between groups	.231	2	.116	.406	.668
	Groups inside	13.387	47	.285		
	Total	13.619	49			

Table (10) indicates that the differences between the members of the study sample according to age variable which come with statistically significant at the level of significance ($\alpha \leq 0.05$) in the second domain, there are not statistically significant at the same level in each of the other domain to discover the differences favor for any categories with statistically significant dimensional transparent test was done and the results were as follows:

Table 11: The results of testing the transparency of the differences between the averages of age variable

More than 45 years	**Between 35 years -45 years**	**Less than 35 years**	**Mean**		**Domain**
3.01	**2.53**	**2.48**			
.048*	.961		**2.48**	**Less than 35 years**	available physical potential for using decision support system
.066			**2.53**	**Between 35 years-45 years**	
			3.01	**More than 45 years**	

Table (11) indicates that e statistical significance differences of the second domain which stipulates that available physical potential for using decision support system it was between the average of two categories More than 45 years and Less than 35 years by reference to the values of averages for both categories shows that differences of statistical significance was for the category of "more than 45 years" based on both categories appears the differences were statistically significant for the category of "more than 45 years," which mean was (3.01) while Less than 35 years get (2.48).

Third: One Way Nova according to Education Level

Table 11: One Way ANOVA to indicates the effect of Education Level on the response of participant sample

Group Statistics						
	Nova sources	**Squares sum**	**Free degree**	**Square mean**	**(F)** value	**correlation coefficient**
Senior Management support for using decision support system	Between groups	1.102	2	.551	3.700	.032
	Groups inside	7.001	47	.149		
	Total	8.103	49			
available physical potential for using decision support system	Between groups	3.401	2	1.701	5.341	.008
	Groups inside	14.964	47	.318		
	Total	18.365	49			
available human potential for using decision support system	Between groups	3.254	2	1.627	3.480	.039
	Groups inside	21.978	47	.468		
	Total	25.233	49			
available technical possibilities for using decision support system	Between groups	.611	2	.305	.772	.468
	Groups inside	18.589	47	.396		
	Total	19.200	49			

available organizational potential for using decision support system	Between groups	1.405	2	.702	1.999	.147
	Groups inside	16.516	47	.351		
	Total	17.921	49			
Type of decision support systems used	Between groups	1.040	2	.520	1.650	.203
	Groups inside	14.819	47	.315		
	Total	15.859	49			
Re-engineering	Between groups	1.242	2	.621	2.358	.106
	Groups inside	12.377	47	.263		
	Total	13.619	49			

Table number (11) indicates the differences between participant samples responses according to Education Level Was statistically significant at the level of significance ($\alpha \leq 0.05$) in the first, second and third level While were not statistically significant at the same level in each of the other categories. To know in favor of any of the groups were statistically significant differences were testing the transparency dimensional, and the results were as follows:

Table 12: The results of testing the transparency of the differences between the averages of Education Level

Master	Bachelor	Diploma	**Mean**		**Domain**
2.57	**2.67**	**2.93**			
*0.05	.099		**2.93**	Diploma	Senior Management support for using decision support system
.850			**2.67**	Bachelor	
			Master	Master	
2.43	**2.40**	**2.93**			available physical potential for using decision support system
.103	*.015		**2.93**	Diploma	
.994			**2.40**	Bachelor	
			2.43	Master	
3.68	2.94	3.28			available human potential for using decision support system
.376	.283		**3.28**	Diploma	
*.046			**2.94**	Bachelor	
			3.68	Master	

Table number (12) indicates that statistical significance differences of the first domain which stipulates that Senior Management support for using decision support system where between average category of "Master" and the category of "Diploma by reference to the values of averages for both categories shows that differences of statistical significance was for the category of Diploma which mean was (2.93) while Master categories was.(2.57) .

In regard to the second domain which stipulates that available physical potential for using decision support system the statistical significance differences between Master Category and Diploma category by reference to the values of averages for both categories shows that differences of statistical significance was for the category of Diploma which mean was (2.93) while Master categories was(2.40) .
In regard to the third domain which stipulates that available human potential for using decision support system for using decision support system the statistical significance differences between Master Category and Bachelor category by reference to the values of averages for both categories shows that differences of statistical significance was for the category of Master which mean was (3.80) while Bachelor categories was (2.94).
Third: One Way Nova according done to Work Environment the results were as follows:

Table 13: One Way ANOVA for indicates the impact of Work Environment on participant responses

Group Statistics						
	Nova sources	**Squares sum**	**Free degree**	**Square mean**	**(F)** value	**correlation coefficient**
Senior Management support for using decision support system	Between groups	.433	2	.217	1.328	.275
	Groups inside	7.669	47	.163		
	Total	8.103	49			
available physical potential for using decision support system	Between groups	3.202	2	1.601	4.963	.011
	Groups inside	15.162	47	.323		
	Total	18.365	49			
available human potential for using decision support system	Between groups	3.070	2	1.535	3.255	.047
	Groups inside	22.163	47	.472		
	Total	25.233	49			
available technical possibilities for using decision support system	Between groups	1.741	2	.871	2.344	.107
	Groups inside	17.459	47	.371		
	Total	19.200	49			
available organizational potential for using decision support system	Between groups	2.163	2	1.082	3.226	.049
	Groups inside	15.758	47	.335		
	Total	17.921	49			
Type of decision support systems used	Between groups	1.309	2	.654	2.113	.132
	Groups inside	14.551	47	.310		
	Total	15.859	49			
Re-engineering	Between groups	.792	2	.396	1.452	.245
	Groups inside	12.826	47	.273		
	Total	13.619	49			

Seen from the table (13) that the differences between the responses of participant in the study sample according to the variable work environment was statistically significant at the level of significance ($\alpha \leq 0.05$) in the field of second, third and fifth domains , while were not statistically significant at the same level in each of the other domains . There are not statistically significant at the same level in each of the other domain to discover the differences favor for any categories with statistically significant dimensional transparent test was done and the results were as follows:

Table 14: statistical significance differences of the second domain

	Deputy	Manager	Mean		Domain
2.90	**2.36**	**2.84**			
.961	*.039		**2.84**	Manager	available physical potential for using decision support system
.042*			**2.36**	Deputy	
			2.90	Head of	
3.65	**3.00**	**3.18**			available human potential for using decision support system
.225	.723		**3.18**	Manager	
.048*			**3.00**	Deputy	
			3.65	Head of	
3.27	**2.75**	**3.06**			available organizational potential for using decision support system
.637	.276		**3.06**	Manager	
*.050			**2.75**	Deputy	
			3.27	Head of	

Table number (14) indicates that statistical significance differences of the second domain which stipulates that available physical potential support for using decision support system where between average category of "Manager" and the category of "Deputy manager by reference to the values of averages for both categories shows that differences of statistical significance was for the category of Manager which mean was (2.84) while Deputy Manager was.(2.57) .

Fifth One Way ANOVA done Service Years the results were as the follows:

Table 15: One Way ANOVA for indicates the impact of Service Years on participant responses

Group Statistics						
	Nova sources	**Squares sum**	**Free degree**	**Square mean**	**(F)** value	**correlation coefficient**
Senior Management support for using decision support system	Between groups	.121	2	.061	.357	.702
	Groups inside	7.982	47	.170		
	Total	8.103	49			
available physical potential for using decision support system	Between groups	.475	2	.238	.624	.540
	Groups inside	17.890	47	.381		
	Total	18.365	49			
available human potential for using decision support system	Between groups	.590	2	.295	.562	.574
	Groups inside	24.643	47	.524		
	Total	25.233	49			
available technical possibilities for using decision support system	Between groups	2.759	2	1.380	3.944	.026
	Groups inside	16.441	47	.350		
	Total	19.200	49			
available organizational potential for using decision support system	Between groups	1.805	2	.903	2.632	.083
	Groups inside	16.116	47	.343		
	Total	17.921	49			
Type of decision support systems used	Between groups	1.127	2	.563	1.797	.177
	Groups inside	14.732	47	.313		
	Total	15.859	49			
Re-engineering	Between groups	1.865	2	.932	3.728	.031
	Groups inside	11.754	47	.250		
	Total	13.619	49			

Seen from the table (15) that the differences between the responses of participant in the study sample according to the variable work environment was statistically significant at the level of significance ($\alpha \leq 0.05$) in the field of fourth and seventh domains , while were not statistically significant at the same level in each of the other domains There are not statistically significant at the same level in each of the other domain to discover the differences favor for any categories with statistically significant dimensional transparent test was done and the results were as follows:

Table 16: statistical significance differences of the fourth domain

	Between	**Less**	**Mean**		**Domain**
2.76	3.13	3.38			
.026*	.449		3.38	Less than 5 years	available technical possibilities for using decision support system
.234			3.13	Between 5-10	
			2.76	More than 10	
2.30	2.71	2.78		Less than 5 years	Re-engineering
.042*	.899		2.78	Between 5-10	
.091			2.71	More than 10	
			2.30		

Table number (16) indicates that statistical significance differences of the fourth domain which stipulates that available technical possibilities for using decision support system where between average categories of more than 10 years and less than 5 years by reference to the values of averages for both categories shows that differences of statistical significance was for the category of less than 5 years which mean was (3.38) while more than 10 years was (2.76).

5 Conclusion

The results show there are relations between Senior Management supports for using decision support system and Re-engineering, the senior Management supports the existence of decision support system and take care of decision support system as apart of comprehensive organizational development and depend on them in making decision and encourage managers to use it. Defines the problems which hinder decision support system the senior management must provide the necessary staff to implement decision support system.

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