

The Role of Knowledge Management on Organization Performance

"Field Study on Aqaba Special Economic Zone Authority"

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Abstract

The study aims to expose the role of knowledge management on organization performance at Aqaba special economic zone authority (ASEZA), where the researcher uses the questionnaire to collect data, and distribute (35) questionnaires on employees of different management levels and departments, and analyzes (33) of them with a percentage of (94.3%). The researcher has concluded that protecting information from loss or waste, the cost of transferring information to make speedy decisions, and the efficiency of knowledge management in the economy all have plays role on the performance of ASEZA, according to the opinions of the survey. The researcher recommends the following: the necessity for improving the methods of protecting systems, protecting information used in organizations and their sub systems, the need for the existence of scientific methods in order to calculate information costs which will help in reducing costs through the international crisis, trying to reduce expenses, and the needs to increase employee's efficiency through training programs, and also recruit expertise and skills from other professional government departments.

Keywords: Knowledge management, information security, information transfer costs, knowledge management efficiency in economy.

1- Introduction:-

One of thing that makes this century unique is the fast and wide presence of knowledge. Anyone who can utilize it in the right way through operating it will own the ability for institutional control, and depend on that, human resources development becomes an important factor in the advancement of organizations and societies productive and competitive capabilities. The hiring, training, and motivating of human resources become critical thing and priorities in the knowledge economy, leading to competition, and attempting to monopolize those people with special abilities. In the past, resources like lands, raw materials, and minerals had large importance, but in the in the 21st century knowledge management also has the same importance or surpass the importance of these resources.

2- Problem of the study:

Organization needs to manage it is operations or businesses accurately and quickly away from loss and waste of information, and so it was the transformation from traditional management to electronic management at a great importance in the accuracy and quickness of decisions making in terms of the difficulty of transporting information and circulation costs which impacted the effectiveness of knowledge management, and development appearance in economic and environmental guidance. The study will try to answer the following questions:

- 1- Is there any role for securing and protecting information from loss or waste on organization performance?
- 2- Is there any role for costs of information transfer in the decision making quickness on organization performance?
- 3- Is there any role for the efficiency of knowledge management in economy on organization performance?

3- Study hypothesis:

This study will deal with the following three hypotheses:

First hypothesis:

There is no role for protecting information from loss or waste on organization performance.

Second hypothesis:

There is no role for the cost of transferring information in the quickness of decision making on organization performance.

Third hypothesis:

There is no role for the efficiency of knowledge management in economy on organization performance.

4- Study objectives:

The study aims for the following:

1. Show the role of protecting information from loss or waste on organization performance.
2. Show the role of the cost of transferring information in the quickness of decision making on organization

performance.

3. Show the role for the efficiency of knowledge management in economy on organization performance.

5- Importance of the study:

Since the study addresses the topic of "knowledge management" which is a newly management approach, the impact of it on the efficiency level of the organization's management, and it is relation to the topic of Information technology, which all help in the development of the management process through the circumstances of openness, competition, and globalization. It is an attempt and effort to introduce knowledge management as a new definition or concept in line with modern management approach of management leaderships acting as a guide for it in the activities of growth and advancement.

6- Previous studies:

1. The study of (Al-Mahameid, 2015), addressed: "The impact of practicing knowledge management on performance with the existence of organizational intelligence: field study at the main centers of the Jordanian commercial banks in Amman".

This study aims to identify the medium role of organizational intelligence on the impact of practicing knowledge management processes in performance. For the purpose of achieving the goal of the study, the researcher develops a special questionnaire according to the most recent studies, which conducted in the subject to measure study variables accurately. The study society consist of all managers, and departments managers working at the main centers of the Jordanian commercial banks in Amman, which amount to (13) banks. Due to researcher's inability to provide a list of names of directors and heads of departments working in Jordanian commercial banks because they are confidential, the researcher depend instead on a suitable sample from directors and department heads working at the main centers. The results of the study shows the existence for an effect of statistical significance for practicing knowledge management process on performance, it shows the existence for an effect of statistical significance for practicing knowledge management process on the two dimensions of organizational intelligence (the ability to predict and the ability to response), and also shows the existence for an effect of statistical significance of organizational intelligence on performance. Lastly, the results show the organizational intelligence to play a partial medium role in the effect of practicing knowledge management process on performance. Depend on the results the researcher arrived to, groups of practical and scientific recommendations have been introduce.

2. The study of (Al-Mahameid, Tweeqan, Al-hadadeen, 2015) addressed: "The impact of customer relation management on organizational performance from the point view of managers at Jordan commercial banks". Field study aims to test the impact of implementing customer relation management on organizational performance at commercial banks operating in the Jordanian bank sector. The researchers designed a questionnaire to collect the preliminary data from research sample to achieve goals of the study. The study society contains the administrations of Jordanian commercial banks in the city of Amman, and the sample study was limited to managers and department heads employed in those banks, which amount to (12) banks. A number of (150) questionnaires were distributed, (138) of them were valid for analysis, and the remaining (12) were excluded because they contains a large percentage of lost data. The study arrives to the existence of impact at statistical significance for implementing customer relation management (concentrate on old customers, coordinate customer relations management, customers knowledge), and knowledge-base customer relations management (financial indicators, customers, internal operations, and learning and growing) in the balanced organizational performance card as a measure for operating commercial banks at Jordanian bank sector. The results also refers to the concentration on old customers and the coordinating of customer relations management to have the biggest impact on organizational performance, but knowledge-base customer relations management didn't show any impact on customers knowledge management and technology. The study concluded a series of recommendations including: the commercial banks must take care of their customer relationship management online through the internet, due to its positive impact on customers satisfaction, the commercial bank administrations activate customers knowledge management due to their active role in improving bank's competitiveness and customers satisfaction, and the commercial bank administrations have to raise the awareness of their customers to use electronic interaction tools associated with customer relationship management based on technology to meet their growing needs and keep them as loyal customers.

3. The study of (Sweis and others), addressed: "knowledge management operations and its impact on achieving the competitive advantage". A case study for the Jordanian telecommunications croup (Orange). The study aims to identify the range of current knowledge management operational impact on achieving competitive advantage. The study sample consists of (84) persons from the administrative body at Orange, and tested this impact by using each of simple regression analysis and single analysis of variance in Mono. The results refer to the existence of high impact between the independent variable (knowledge management operations) and the dependent variable (competitive advantage). The results also indicates the existence of statistically significant differences in the impact of the prevailing knowledge management operations to achieve competitive advantage

due to length of service, while there were no differences related to job title.

4. C. LAKSHMAN, Top Executive Knowledge Leadership: Managing Knowledge to Lead Change at General Electric.

Using a single case study approach, this article highlights the role of Jack Welch as a knowledge leader. It provides a description of Welch's role as CEO, focusing exclusive attention on knowledge management as an essential component of his leadership. Combining qualitative and quantitative sources of data, this study demonstrates the role of top executive leaders in knowledge management and its importance to organizational performance. The results establish knowledge leadership as an integral aspect of the executive leadership of Welch. These results are discussed in light of the literature along with implications for future research and limitations of this study.

5. Marijana Zekić-Sušac, Adela Has, "Data Mining as Support to Knowledge Management in Marketing, Background: Previous research has shown success of data mining methods in marketing. However, their integration in a knowledge management system is still not investigated enough. Objectives: The purpose of this paper is to suggest an integration of two data mining techniques: neural networks and association rules in marketing modeling that could serve as an input to knowledge management and produce better marketing decisions. Methods/Approach: Association rules and artificial neural networks are combined in a data mining component to discover patterns and customers' profiles in frequent item purchases. The results of data mining are used in a web-based knowledge management component to trigger ideas for new marketing strategies. The model is tested by an experimental research. Results: The results show that the suggested model could be efficiently used to recognize patterns in shopping behaviors and generate new marketing strategies. Conclusions: The scientific contribution lies in proposing an integrative data mining approach that could present support to knowledge management. The research could be useful to marketing and retail managers in improving the process of their decision making, as well as to researchers in the area of marketing modeling. Future studies should include more samples and other data mining techniques in order to test the model generalization ability.

7- Introduction:

The researcher dealt previously with reference to the study literatures, and deals here with the description of study society and sample. As well as statistical methods used in the analysis and the follow procedures for data processing of the study tool (questionnaire).

8- Study society and sample:

Study society:

The study society consists of the employees at Aqaba special economic zone authority (ASEZA).

Study sample:

The study sample includes administration department and also the people responsible for storing data in ASEZA. Number of (35) questionnaires have been distributed, returned of them, and the valid questionnaires were (33) which represent a percentage of (94.3%).

Data collection sources and methods:

1. Data collection sources:

A. Primary sources: represented in the questionnaire used as a primary source for collecting data related to the role of knowledge management on the organization performance at ASEZA.

B. Secondary sources: The theoretical framework for the study was prepared by relying on Arabic and English references and books that addressed the study variables, plus the letters, journals, and periodicals which covered the topic.

2. Data collection method:

The field study aims to collect data related to the role of knowledge management on the organization performance at ASEZA. Therefore, a questionnaire was prepared for the study in a way that matches this target, and consists of the following two parts:

1- First part: contains an illustrative introduction for the general objectives of the questionnaire and personal questions.

2- Second part: This part specifies data collection related to the independent variables of the study sample populations in the questionnaire.

Therefore, this questionnaire has been prepared so that the respondent put a flag in front of each article on the axis, where there are in the opposite of each article columns that reflect five levels for responding or agreeing to the article or not. Each level represents a certain weight in ascending order (from 1 to 5) according to the fifth Likert scale, and the following table shows the answers and their weights:

Table (1) Answer's weights on the questionnaire's questions

Answer (opinion)	Item weight
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

Statistical methods used:

To test the study hypothesis, statistical analysis has been conducted for data that emerged from the questions on the questionnaire using the software known as statistical package for social sciences (SPSS), and has adopted the following statistical methods:

1. Testing the degree of credibility and reliability for data on the study tool (Reliability Analysis):

The Cronbach coefficient alpha has been used as known credibility test to measure the degree of reliability and credibility for the questions on the questionnaire, and analyze the data internal consistency on the study tool. Alpha can be explained as internal consistency coefficient between the answers, and so the statistically expected value for this coefficient is (60%) or more, but if it was less than (60%), the credibility is considered weak, and the value of alpha ranges (between 0 and 1).

2. Measures of Central Tendency:

We can identify the point location, which centralize around it all values through measures of central tendency. It is heading towards a certain value in the center or close to it, and according to the considerable scale, to give certain indication about a society, through calculated sample data from it. The arithmetic mean and its percentages have been used as one of these criteria.

* The arithmetic mean:

The arithmetic mean has been used for the answers of the study sample populations on the questionnaire to test the study hypotheses, and relied on a default mean center value at (3) according to fifth Likert scale, which is equivalent to (60%) or $((5 + 4 + 3 + 2 + 1)/5) - 1 = 3$. The arithmetic means then compared for each article with this mean in order to accept or reject the hypothesis.

Levels were determined on the basis of statistical equation $((5-1)/3) = 1.33$

1- Level from (1.0 to 2.33) is low

2- Level from (2.34 to 3.67) is medium

3- Level from (3.68 to 5.0) is high

3- Measures of Dispersion:

Measures of dispersion show the extent of statistical data spreads quantitatively, how far they move away from the center. They measure deviations or differences of vocabularies from levels or criteria which is usually one of the averages or mediums. The most important criteria of those have been used, and they are as follow:

a) Standard deviation:

This measurement used to denote the amount of values dispersion from their arithmetic mean. Standard deviation was used to measure and demonstrate the extent of dispersion for the answers of the study sample populations from the arithmetic mean, where as if the standard deviation values were relatively large, that indicates dispersion of answers from the arithmetic mean and vice versa.

b) Percentages:

This scale is used to divide the data by a certain percentages, where it used to summarize the related data about the sample population's (respondents) personal aspects.

c) Frequencies:

It is a value indicates sample duplicates or frequencies. How many states this value achieved?

d) One-Sample (T-Test):

It used to test the hypotheses.

4- Test the credibility of data contained in the questionnaire according to Cronbach coefficient alpha:

To verify the consistency and credibility of the data contained in the designed questionnaire and in light of it the rejection or acceptance will be determined. The Cronbach coefficient alpha have been used, and as mentioned earlier alpha coefficient value ranges between (0-1), and the statistically acceptable minimum limit for the consistency coefficient is (60%). In this kind of studies, the closer the value of Cronbach alpha to one, the greater the degree of reliability and internal consistency for answers, and then the credibility of the questionnaire can be good and it is possible to generalize the results. The following table shows the results of this test for the articles of the study variables independently and as a whole:

Cronbach Alpha coefficient test results to verify the degree of credibility and reliability of the data contained in the questionnaire:

Table (2) Cronbach Alpha coefficient to measure reliability of the study tool

Variable	Numbers of Article	Cronbach Alpha coefficient	Result
Protecting information from loss or waste	10	72.8%	Acceptable
Information transfer costs in decision making speed	10	78.8%	Acceptable
Knowledge management efficiency in economy	10	84.9%	Acceptable
Overall measurement	30	92.6%	

Sources: Prepared by researcher

It shows from table (2) that Cronbach coefficient Alpha for the sample respondent's answers on the articles of the questionnaire, with each part separate and specific for each hypotheses of the study, was greater than the minimum acceptable coefficient alpha of (60%). The value of the coefficient for all articles of the questionnaire was greater than (60%), and this demonstrates the finding of a large degree of credibility in the answers, and this also refers to the existence of internal consistency between the articles of the questionnaire. As a result, this questionnaire has been adopted as a primary source for the field study data, and therefore it is possible to generalize the results on the study society.

Personal characteristics of the study sample populations:

We display in this section a detailed description for the characteristics of the study sample based on their answers to the questions contained in the questionnaire through the article of general and personal data, and in the following way:

Table (3) Distribution of sample populations according to the demographic variables

Variables	Variable units	Numbers	percentages
Sex	Male	24	72.7%
	Female	9	27.3%
Age	Less than 30 yrs	5	15.2%
	Between 30 and 40 yrs	15	45.5%
	Between 41 and 50 yrs	9	27.3%
	Between 51 and 60 yrs	2	6.0%
	More than 60 yrs	2	6.0%
Educational level	College diploma	7	21.2%
	Bachelor	20	60.6%
	Master	4	12.2%
	PhD	2	6%
Job title	Manager	1	3%
	Assistant manager	2	6%
	Department manager	2	6%
	Employee	28	85%

Data display and analysis:

The researcher relies on arithmetic mean to process and analyze the data, and used it as a measurement for the answers of the sample population, and also used the standard deviation to measure and declares the extent of dispersion about the answers of the study sample populations around the arithmetic mean.

9-Data analysis:

In order to analyze the answer's results on the variables that were addressed in the questionnaire by the sample populations, those answers had been analyzed and following is an explanation of that:

Description of variables:

First: Protecting information from loss or waste

As noted from table (4) the arithmetic mean of protecting information from loss or waste amount to (4.2200) from the overall scale area on fifth Likert scale and a standard deviation of (0.5655), which indicates that "protecting information from loss or waste" is high compared with the average deviation of (3), according to the point view of the study sample populations. By analyzing the sample opinion on the level of each article, it shows the following:

Table (4)
 Protecting information from loss or waste

Number	Article	Arithmetic mean	Standard deviation	Level
1	Government is protecting her place of work with motion sensors, and surveillance cameras well good.	4.430	0.57305	High
2	Keep backup copies of the information on external hard drives	4.0200	0.85257	High
3	Easy access to information when ever it is in need.	3.8700	1.11604	High
4	Devoted to pursue any suspicious transactions or persons within the organization	4.2000	0.69631	High
5	The available security level is appropriate for protecting importance information	4.5600	0.60836	High
6	Suitable Identification of persons authorized to access information	4.4500	0.70173	High
7	The powers of individuals for access to information limited to laws and appropriate criteria	4.3300	0.71145	High
8	Alternative plans are suitable for immediate implementation in case of loss of important information.	4.3600	0.57770	High
9	protect employees and their rights in all cases	4.5000	0.57735	High
10	Continuing work on filtering the information and keep only the useful of it to serve the objectives of the organization.	4.5300	0.57656	High
	General average	4.2200	0.5655	High

It shows from the table above that the article number (5) stated: "The available security level is appropriate for protecting importance information", achieved the highest arithmetic mean which amount to (4.56) with a standard deviation of (0.608), where the article number (3) stated: "Easy access to information whenever it is in need" got the lowest arithmetic mean according to the study sample with (3.870) and a standard deviation of (1.11604).

Second: Information transfer costs in the decision making speed

As noted from table (5) the arithmetic mean of Information transfer costs in the decision making speed amount to (4.025) from the overall scale area on fifth Likert scale and a standard deviation of (0.5288), which indicates that " Information transfer costs in the decision making speed " is high compared with the average deviation of (3), according to the point view of the study sample populations. By analyzing the sample opinion on the level of each article, it shows the following:

Table (5)
 Information transfer costs in the decision making speed

Number	Article	Arithmetic mean	Standard deviation	Level
11	The competition factor between decision making offices when setting fees.	3.490	1.01000	Medium
12	The fee is determined independently of the away from the outcome of the decision making process.	3.950	0.82112	High
13	The costs of moving information have in an effect in decision making speed.	4.240	0.76700	High
14	Increasing fees leads to increase in decision making process speed.	4.110	0.85156	High
15	Specify the fees by the general body of shareholders support the quality of the decisions.	3.910	1.09263	High
16	Efficient and rapid access to information in the decision making.	4.030	0.98939	High
17	Completion of transactions accurately and in timely manner.	4.430	0.57305	High
18	Classification and distribution of transactions and decision speed.	4.020	85257.0	High
19	Performance level of decision making on the Organization's performance.	3.870	1.11604	High
20	The decision making offices obeyed by minimum wages and specific fees.	4.200	0.69631	High
	General average	4.025	0.5288	High

It shows from the table above that the article number (17) stated: "Completion of transactions accurately and in timely manner ", achieved the highest arithmetic main which amount to (4.430) with a standard deviation of (0.57305), where the article number (11) stated: "The competition factor between decision making offices when setting fees" got the lowest arithmetic main according to the study sample with (3.49) and a standard deviation of (0.101).

Third: The efficiency of knowledge management in economy

As noted from table (6) the arithmetic mean of The efficiency of knowledge management in economy amount to (4.2400) from the overall scale area on fifth Likert scale and a standard deviation of (0.7016), which indicates that " The efficiency of knowledge management in economy " is high compared with the average deviation of (3), according to the point view of the study sample populations. By analyzing the sample opinion on the level of each article, it shows the following:

Table (6)

The efficiency of knowledge management in economy

Number	Article	Arithmetic mean	Standard deviation	Level
21	Knowledge management and its impact on organizational innovation and the economy.	4.450	0.701	High
22	Ensure that each worker get his honest and continuous performance evaluation from his coworkers and supervisors.	4.330	0.711	High
23	Make organization's jobs move in intellectual direction toward implementation.	4.360	0.57770	High
24	Impact of efficiency lack on the economy and the performance of the Organization.	4.500	0.57735	High
25	Reduce overall costs by reducing the costs of wastes and defective productions.	4.530	0.57656	High
26	knowledge management leads to achieve innovation, creativity, discover new things, and increase cultural awareness among workers through training and learning.	4.390	0.72328	High
27	Knowledge management represents a newly scientific field, and especially the practical aspect of it.	4.340	0.66999	High
28	Give greater importance from high level management to organization efficiency.	2.870	21152.1	Medium
29	Recruit and hire qualified knowledge trained managers who are able to perform the roles.	4.010	1.0298	High
30	Knowledge management and its impact on organizational innovation and the economy.	3.490	1.0100	Medium
	General average	4.240	0.7016	High

It shows from the table above that the article number (25) stated: "Reduce overall costs by reducing the costs of wastes and defective productions", achieved the highest arithmetic main which amount to (4.53) with a standard deviation of (0.57656), where the article number (28) stated: "Give greater importance from high level management to organization efficiency" got the lowest arithmetic main according to the study sample with (2.87) and a standard deviation of (1.211).

Statistical analysis and study hypotheses test:

This part of the study deals with testing the main study hypotheses through the three secondary hypotheses by using the one sample T-test to test the hypotheses and then arrive to the associated results of this test. The results of this test were as follow:

Table (7) Results of the T-test for the hypotheses

Hypothesis	T-value	Degree of freedom	Observe d α	Result
There no role for protecting information from loss or waste on organizational performance	74.623	32	0.00	Reject
There is no role for information transfer costs in decisions making speed on the organization performance.	76.110	32	0.00	Reject
There is no role for the efficiency of knowledge management in the economy on organization's performance.	60.428	32	0.00	Reject

10- Hypotheses test:

1) Test first hypothesis of the study:

This paragraph donated to test the first hypothesis of the current study which includes: "There no role for protecting information from loss or waste on organizational performance", and depends on T-test value to test this hypothesis. The results which were summarized in table (7) shows: "There no role for protecting information from loss or waste on organizational performance". T-test was used and the results of the table indicates that the value of (calculated T) is greater than the value of (tabular T) which is below the significance level (0.05), and since the decision rule states to accept the nihilism hypothesis (HO), if the value of (calculated T) is less than the value of (tabular T), and reject the nihilism hypothesis (HO) if the value of (calculated T) is greater than the value of (tabular T), therefore the nihilism hypothesis will be rejected (HO), and accept the alternative hypothesis, which stated:" There is a role for protecting information from loss or waste on organizational performance".

2) Test second hypothesis of the study:

This paragraph donated to test the second hypothesis of the current study which includes: "There is no role for information transfer costs in decisions making speed on the organization performance", and depends on T-test value to test this hypothesis. The results which were summarized in table (7) show "There is no role for information transfer costs in decisions making speed on the organization performance". T-test was used and the results of the table indicates that the value of (calculated T) is greater than the value of (tabular T) which is below the significance level (0.05), and since the decision rule states to accept the nihilism hypothesis (HO), if the value of (calculated T) is less than the value of (tabular T), and reject the nihilism hypothesis (HO) if the value of (calculated T) is greater than the value of (tabular T), therefore the nihilism hypothesis will be rejected (HO), and accept the alternative hypothesis, which stated:"There is a role for information transfer costs in decisions making speed on the organization performance".

3) Test third hypothesis of the study:

This paragraph donated to test the third hypothesis of the current study which includes: "There is no role for the efficiency of knowledge management in the economy on organization's performance, and depends on T-test value to test this hypothesis. The results which were summarized in table (7) show "There is no role for the efficiency of knowledge management in the economy on organization's performance". T-test was used and the results of the table indicates that the value of (calculated T) is greater than the value of (tabular T) which is below the significance level (0.05), and since the decision rule states to accept the nihilism hypothesis (HO), if the value of (calculated T) is less than the value of (tabular T), and reject the nihilism hypothesis (HO) if the value of (calculated T) is greater than the value of (tabular T), therefore the nihilism hypothesis will be rejected (HO), and accept the alternative hypothesis, which stated:" There is a role for the efficiency of knowledge management in the economy on organization's performance".

11- Study results

First result: There a role for protecting information from loss or waste on organizational performance **with a T-value of (74.623) at a significance level of 0.000**

Second result: There is a role for information transfer costs in decisions making speed on the organization performance **with a T-value of (76.110) at a significance level of 0.000**

Third result: There is a role for the efficiency of knowledge management in the economy on organization's performance **with a T-value of (60.428) at a significance level of 0.000**

12- Recommendations

According to the study results mentions above, the researcher recommend the following:

1- The need to improve the methods of protection systems and protecting information security used in organizations and in their subsystems.

- 2- The need for scientific methods to calculate the cost of information which helps to reduce costs amid the global crisis and tries to reduce expenses.
- 3- The need to upgrade employees and staff through training courses and also attract expertise from other government departments in order to supplement competencies.

13- References

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