Saudi Journal of Business and Management Studies (SJBMS) **ISSN 2415-6663 (Print)**
Scholars Middle East Publishers **ISSN 2415-6671 (Online)**
Dubai, United Arab Emirates
Website: http://scholarsmepub.com/

The impact of Knowledge management on supply chain performance

Alaa Nader Yousef Abdel Gani*
Master degree at quality managment at Jordan University, Queen Rania str.، Amman, Jordan

***Corresponding author**
Alaa Nader Yousef Abdel Gani

Article History
Received: 06.01.2018
Accepted: 15.01.2018
Published: 30.01.2018

DOI:
10.21276/sjbms.2018.3.1.4

Abstract: The study aimed to examine the impact of knowledge management on supply chain performance. To achieve such goal a self-administrate questionnaire was designed and distributed over a sample amounting 110 subjects. The study concluded that There is a statistically significant impact at (α<.05) of knowledge management (knowledge creation, knowledge acquiring, knowledge storage, knowledge sharing, and knowledge application) on supply chain performance. The study recommended that telecommunication companies in Jordan are requested to motivate their employees to exchange and share knowledge to get the best benefit for all. Knowledge mangement has an impact on supply chain mangement.
Keywords: Knowledge management, supplychain performance.

INTRODUCTION

Knowledge is one of the most important assets for surviving in modern business organizations. The effective management of such asset mandates continuous adaptation by organizations, and requires employees to exert their best efforts to improve company's work processes. Organizations attempt to coordinate their unique knowledge with traditional means as well as in new and distinct ways, and to transform them into innovative resources better than those of their competitors.

Therefore managing the knowledge asset has become a critical issue for todays organizations, and knowledge management is considered the most feasible solution. Knowledge management is a multidimensional process that identifies, acquires, develops, distributes, utilizes, and stores knowledge.

The main purpose of this study was to find the impact of knowledge management on supply chain performance in Jordanian telecommunication companies.

BACKGROUND

Todays organizations tend to coordinate their unique knowledge with traditional resources, and processes, in new and distinct ways in order to gain a competitive advantage. Knowledge is considered the most important strategic resource, and the ability to acquire, integrate, store, share, and apply it is the most important for improving supply chain performance. However, the link between knowledge management and supply chain performance is not supported by sufficient empirical studies

STUDY STATEMENT

The study statement will attempt to answer the following questions:

1- Is there any impact of knowledge management on supply chain performance?
2- Do Knowledge management practices (knowledge generation, knowledge acquiring, knowledge sharing, and knowledge storage and knowledge application) have an impact on supply chain performance?

PURPOSE OF THE STUDY

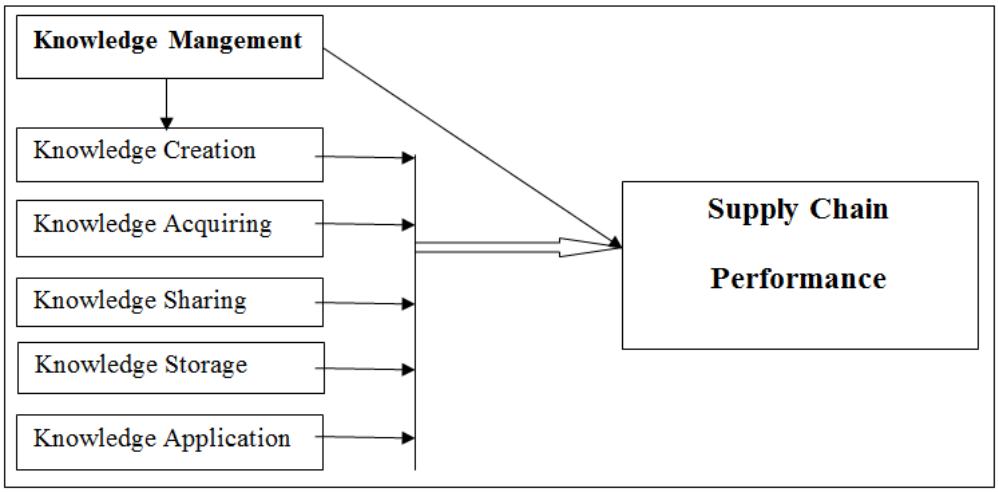
The purpose of this quantitative study is to investigate the impact of knowledge management on supply chain performance

RESEARCH QUESTIONS

This quantitative study was designed to answer the following questions:

1-Is there any impact of knowledge management on supply chain performance?
2-Do Jordanian telecommunication companies use knowledge management?
3- How knowledge management is effective in increasing supply chain performance

RESEARCH MODEL



STUDY HYPOTHESES

Main Hypothesis

Ho1: There is no statistically significant Impact at (α<.05) level of knowledge management (Knowledge Generation, Knowledge Acquiring, Knowledge Sharing, and Knowledge implementation) on supply chain performance of telecommunication companies company in Jordan.

The following sub hypotheses were derived;

Ho1-1: There is no statistically significant impact at (α<.05) level of knowledge generation on supply chain performance of telecommunication companies company in Jordan.

Ho1-2: There is no statistically significant impact at significance (α<.05) level of knowledge acquiring on supply chain performance of telecommunication companies company in Jordan.

Ho1-3: There is no statistically significant impact at significance (α<.05) level of knowledge sharing on supply chain performance of telecommunication companies company in Jordan.

Ho1-4: There is no statistically significant impact at significance (α<.05) level of knowledge implementatiom on supply chain performance of telecommunication companies company in Jordan.

LITERATURE REVIEW AND PREVIOUS STUDIES

Knowledge management

According to Webster"s dictionary [1], knowledge is defined as "(i) the act, fact, or state of knowing; a) acquaintance or familiarity), b) awareness, c) understanding, (ii) acquaintance with facts; range of information, awareness, or understanding, (iii) all that has been perceived or grasped by the mind; learning; enlightenment, and (iv) the body of facts, principles**"**

Knowledge is defined as "a mix of experiences, values, information and insight that provide framework for assessing and integrating experiences and new information as its source and application are in minds of those who know and in many times become an integral part not only in documents but also in processes, practices and standards of regulatory measures [2].

Kotelnikov [3] defined knowledge management as "collecting, everaging, and distributing both explicit and tacit knowledge throughout your organization.

Knowledge management is defined also as" the planning, organizing, motivating, and controlling of people, processes and systems in the organization to ensure that its knowledge-related assets are improved and effectively employed" [4]. Rašul *et al*., [5] stated that knowledge management is a kind of process that transforms individual knowledge into organizational knowledge.

Organization can through adopting knowledge management, improve its capabilities of creating, managing, sharing and applying their knowledge, sharpen their business intelligence, enhance their managerial decisions efficiency and effectiveness, and finally achieve better business performance.

Knowledge management aims to develop strategy to acquire, use and knowledge transfer effectively across the organization in order to improve efficiency and provide a sustainable competitive advantage [6].

Cheng [7] indicated that there are five dimensions of knowledge management processes, namely, knowledge generation , knowledge acquiring, Knowledge storage, knowledge sharing and knowledge application processes.

Supply chain

Supply chain management is defined as set approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimise system wide costs while satisfying service level requirements [8].

Supply chain includes three functions as follows: (1) supply materials to a manufacturer; (2) manufacturing process; and (3) distribution of finished goods by a network of distributors and retailers to a final customer [9]

Previous studies

Vieri *et al*., [10] study aimed to investigate the supply chain performance measurement system. The study sample consisted of sample of 92 articles published from 1998 to 2015 constitutes the knowledge base of the study. The results show the publication pattern over time and provide evidence about the journals, themethodology adopted and the content elements (the SCPMS frameworks presented and the scope and phase of the measurement process).

Hamed *et al*., [11] study was conducted based on questionnaire containing multiple- choice 66 items. Itis observed that when the conditions are described badly by qualified companies, only 38 percent shared collaborative tools and knowledge. When the common tools in the development process of knowledge, creation could not be used, the research shows that learning can be provided across companies of supply chain through cooperation. Tools development allows knowledge to be achieved well. Such tool used by development partners is knowledge. It means that there are some barriers to share knowledge and the nature of these obstacles should be discovered later.

Hasan *et al*., [12] study reviewed the literature in the field of supply chain performance measurement and assembles an overview of those systems, approaches, techniques and criteria. 83 of 374 related articles from 1998 to 2015 were selected for final review using the Scopus and ISI databases. The study results indicate that performance measurement in supply chain contexts is still a fruitful area of research. The study also provides an overview of the performance measures employed in supply chain systems.

Sadegh *et al*., [13] study aimed to examine the relationship between knowledge management processes and supply chain performance, with information technology/information system support, supply chain integration, and supply chain strategy as moderators. The research used six knowledge management processes: knowledge creation, knowledge capture, knowledge organization, knowledge storage, knowledge dissemination, and knowledge application, and the performance of supply chain is evaluated in terms of four Supply Chain Operations Reference (SCOR) process elements: Plan, Source, Make, and Delivery. Structural equation modeling is employed using a sample of 78 Iranian manufacturers in mechanical and engineering industry. The study found that knowledge management processes have a significant impact on supply chain performance

Sung and Kyung [14] study aimed to identify the dimensions of KC and to empirically examine the relationships among KC, inter-firm knowledge exchange, and supply chain performance. The study used data collected from 70 pairs of buyer and supplier .The results show that the relationship between knowledge exchange and supply chain performances was positive and significant.

Seher and Turan [15] study aimed to find out the impact of knowledge management on supply chain management in clothing sector. The study used aquestionnaire to collect the required. The questionnaire was distributed over clothing enterprises that are listed the largest 500 in Turkey. The research results indicated that effective knowledge management elements have positive effects on performance of clothing supply chain.

Schoenherr *et al*., [16], study aimed to determine the impact of explicit and tacit knowledge on supply chain performance. The study used survey method that was applied on 195 small- and medium-sized enterprises. The study found that explicit and tacit knowledge affect positively supply chain performance.

Sachinand, Kant [17] study aimed to evaluate the impact of Knowledge Management (KM) adoption on the Supply Chain (SC) performance. This study proposes a framework based on balanced scorecard (BSC) and fuzzy Analytical network process (FANP) to evaluate the impact of KM adoption on SC performance. The study shows the positive impact of KM adoption on SC performance.

Marie-Lyne *et al*., [18] study aimed to propose a conceptual framework for KM in SC and to validate the framework with help of an empirical study conducted with French companies. Finally, a summary of findings and conclusions is presented for KM in SC. This study shows that learning can be realized across company borders and those companies within a supply chain create knowledge by working together. The development of tools that allow knowledge to be created is a very important result since the study shows that when such tools are developed by partners, knowledge is created in the majority of these companies.

Cheng [7] study aimed to study impact of supply chain management practices on organizational

performance and to investigate if knowledge management processes serves as a mediator in determination of this above relationship. The study used seven dimensions of supply chain management practices. The study applied quantitative method to collect the needed data. The research sample consisted of 138 manufacturing companies listed in the Federation of Malaysia Manufacturers. Study results showed that supply chain management practices such as information sharing, quality of information sharing and lean practices were positively related to organizational financial and non-financial performance. The results showed that three dimensions of knowledge management processes mediated the relationship between information sharing, quality of information sharing and lean practices toward organizational non financial performance.

Caleb [19] study aimed to explore the relationship between knowledge management and supply chain. The research used case company with huge network for the empirical study... Interview and personal observations were used for data collection, The study concluded that rate of change in business environment reiterate why knowledge management approach.

Peter et al., [20] study aimed at investigating the relationship between analytical capabilities in the plan, source, make and deliver area of the supply chain and its performance using information system support and business process orientation as moderators. The findings suggest the existence of a statistically significant relationship between analytical capabilities and performance. The moderation effect of information systems support is considerably stronger than the effect of business process orientation. The results provide a better understanding of the areas where the impact of business analytics may be the strongest.

Dumitrache *et al*., [21] study aimed to conceptualize the skills formation using a Knowledge Society paradigm approach to ensure efficient synchronization between the Adaptive Virtual Organization and Knowledge Management concepts by identifying a set of common activities performed with the aim of assisting the Adaptive Virtual Organization in meeting the going demand for knowledge of today's global economy. Therefore the need for implementing a Learning Organization concept as to offer the needed support within the Enterprise Information System Supply Chain Management becomes a great necessity.

Stanley *et al*., [22] aimed to understand how information technology (IT) is used to enhance supply chain performance. A large-scale survey and semi-structured interviews were used to collect industry data. Two distinct dimensions to information sharing – connectivity and willingness – are identified and analyzed. Both dimensions are found to impact operational performance and to be critical to the development of areal information sharing capability team.

RESEARCH METHODOLOGY

This quantitative study identified the impact of use knowledge management to increase organizational supply chain performance. The study was conducted using survey research methods. A quantitative survey design was appropriate because surveys are used to obtain information on beliefs, attitudes, and opinions

Research Instrument

The questionnaire was designed by the help of literature review and the previous studies that handle the research topic (knowledge management, andsupply chain) for the purpose of obtaining the research variables (independent and dependent. Variables).The questionnaire consisted of three parts: the covering letter shows research objectives .In the covering letter subjects were asked to answer all questions accurately.They were assured that their responses will be treatedconfidentialy and will be used for research purposes only. The second part consists of sample's subject's demographic data. The third part included statements that measure research independent and dependent variable. Five-point Likert scale was used toshowsample's degree of agreement or disagreement as follows: strongly disagee (1) point to strongly agree (5 points). The questionnaire was designed in two languages, the Arabic version which was handed to those who don't master English language, While the English version was handed to those who don't master Arabic language.

Population and sampling

The targeted population is represented by Jordanian telecommunication companies (Zain, Orange and Umneia). The study sample was randomly selected. 125 questionnaires were distributed over the sample subjects. 110 questionnaires were collected

Data collection methods

There are two data collection methods available as follows:

Secondary Data

Secondary data collection is used for the purpose of obtaining basic information regarding the research topic. Books, periodicals, journals, references and the internet were used for collecting the required data.

Primary Data Collection

For the purpose of achieving the research objectives self administrated questionnaire was used and distributed to the research sample.

Data Analysis

All gathered primary data were coded and then analyzed by using Statistical Package of the Social Sciences (SPSS) the following statistical analysis were used

1. Descriptive statistics to measure and describe the characteristics of the study sample, using frequencies and percents.
2. Means and standard deviations for study sample responses
3. Using multiple and simple regression analysis test

Research Validity

The questionnaire was examined by a panel of university instructors, their comments and amendments were taken in consideration .The comment of such academics led to a number of changes in the instrument items. Therefore some items were eliminated or added to form the final form of the questionnaire.

Research Reliability

The research used Cronbach alpha to test the consistency of the results produced by the scale.

The effect of hedge accounting on the information quality, disclosure, and information asymmetry in Jordanian banks.

Research Validity

The questionnaire was subject to validation by number of university staff their comments and amendments were taken in consideration.

Research Reliability

This study used Cronbach alpha to test the consistency of the results produced by the scale. According to this test, the overall reliability level was equal to (92.2) which are considered as an acceptable level of reliability Table (1) shows values of Cronbach's alpha for each variable of the questionnaire and the entire questionnaire.

Table-1: Instrument reliability

Variable	Cronbach Alpha
Knowledge creation	75.4
Knowledge Acquiring	90.1
Knowledge storage	**92.2**
Knowledge sharing	82.9
Knowledge Application	84.3
Total Instrument	91.5

Hypothesis Testing

First Main Hypotheses

There is no statistically significant impact at (α<.05) of knowledge management (knowledge creation, knowledge acquiring, knowledge storage, knowledge sharing, and knowledge application) on supply chain performance.

Table-2: Regression model Validation

Mode	Sum of Squares	Df	Mean Square	F	Sig.
Regression	89.856	4	22.464	97.191	000[a]
Residual	54.316	270	.231		
Total	144.171	274			

Table-2 indicated that F calculated value =97.191 is more that tabulated F and Sig value is (0.000) which is less than (α-0.05), which means the validity of simple regression, so there is an impact of knowledge management (knowledge creation, knowledge acquiring, knowledge storage, knowledge sharing and knowledge application) on supply chain performance. Therefore it is possible to use the multiple regressions for measuring the impact of knowledge management. Table-3 indicates the results of simple regression as follows

Table-3: indicates the results of simple regression

Variable	(β)	T-calculated	Sig	BETA
Constant	-.114-	-.554-	.580	
Knowledge creation	.279	3.770	.000	.210
Knowledge acquiring	.195	3.036	.003	.198
Knowledge storage	.367	5.009	.000	.333
Knowledge sharing	.187	4.012	.000	.198
Knowledge Application	278	3974	000	171
.Coefficient correlation (R)	789			
Coefficient of Determination (R2)	.623			

Table-3 results indicate that the regression coefficient (β) knowledge management is significant. Therefore there is a statistically significant impact at significance level (α= 0.05) of knowledge management. T- Calculated (3.770, 3.036, 5.009, and4.012) values confirm this impact Moreover the significant value = 0.000 is less than the significant level (α= 0.05). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact of knowledge management on supply chain performance.

Table also indicated that the correlation coefficient was (R = .789), which indicate a positive relation between independent variables and dependent variable, in addition value of Determination Coefficient (R^2) is (0.623) which indicate that (% 62.3) of variance in supply chain performance may be intercepted through knowledge management while the rest percent (% 37.7) is due to other variables that are not included in the model

The results of the first main hypothesis showed that there is a statistically significant Impact at (α= 0.05) level of knowledge management on supply chain performance

First Sub- Hypotheses

There is no statistically significant impact (α<.05) of knowledge creation on supply chain performance

To test this hypothesis simple linear regression was used, before verifying the regression model validation

Table-4: Regression model Validation

Mode	Sum of Squares	Df	Mean Square	F	Sig.
Regression	57.105	1	57.105	156.101	000[a]
Residual	87.066	238	.366		
Total	144.171	239			

Table-4 indicated that F calculated value =156.101 is more that tabulated F and Sig value is (0.000) which is less than (α-0.05), which means the validity of simple regression, so there is an effect of knowledge creation on supply chain p performance . Therefore it is possible to use the simple regression for measuring the impact of knowledge creation. Table-5 indicates the results of simple regression as follows

Table-5: indicates the results of simple regression

Variable	(β)	T-calculated	Sig	BETA
Constant	. .519	2.088	038	
Knowledge Creation	.834	12.494	000	.629
Coefficient correlation (R)	.629			
Coefficient of Determination (R^2)	.396			

Table-5 results indicate that the regression coefficient (β) for knowledge creation is significant. Therefore there is a statistically significant impact at significance level (α= 0.05) of knowledge creation. T-Calculated (2.088) value confirms the impact. Moreover the significant value = 0.000 is less than the significant level (α= 0.05). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact of knowledge creation on supply chain performance

Table also indicated that the correlation coefficient was (R = .629), which indicate a positive relation between independent variable and dependent variable, in addition value of Coefficient of Determination(R^2) is (0.396) which indicate that (% 39.6) of variance in supply chain performance may be intercepted through knowledge creation while the rest percent (% 60.4) is attributed to other variables which were not introduced in the simple regression model.

Standard coefficient values (BETA) of knowledge creation value (0.629) indicates the impact of knowledge creation on supply chain performance.

The results of the hypothesis showed that there is a statistically significant effect at (α= 0.05) level of knowledge creation on supply chain performance since (β) value is (0.839)

Second Sub- Hypotheses

There is no statistically significant impact at (α<.05) of knowledge acquiring on supply chain performance

Table-6: Regression model Validation

Mode	Sum of Squares	Df	Mean Square	F	Sig.
Regression	67.834	1	67.834	. 211.490	000[a]
Residual	76.337	238	.321		
Total	144.171	239			

Table-6 indicated that F calculated value =211.490 is more that tabulated F and Sig value is (0.000) which is less than (α-0.05), which means the validity of simple regression, so there is an impact of knowledge acquiring on supply chain performance Therefore it is possible to use the simple regression for measuring the impact of knowledge acquiring. Table-7 indicates the results of simple regression as follows

Table-7: indicates the results of simple regression

Variable	(β)	T-calculated	Sig	BETA
Constant	1.054	5.923	0.000	
Knowledge Acquiring	.677	14.543	0.000	.686
Coefficient correlation (R)	.686			
Coefficient of Determination (R^2)	.471			

Table-7 results indicate that the regression coefficient (β) for knowledge acquiring is significant. Therefore there is a statistically significant impact at significance level (α= 0.05) of knowledge acquiring. T-Calculated (5.923) value confirms this effect. Moreover the significant value = 0.000 is less than the significant level (α= 0.05). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact of knowledge acquiring on supply chain performance.

Table also indicated that the correlation coefficient was (R = .686), which indicate a positive relation between independent variable and dependent variable, in addition value of Determination(Coefficient (R^2) is (0.471) which indicate that (% 47.1) of variance in supply chain performance may be interpreted through knowledge acquiring while the rest percent (52.9) is attributed to other variables which were not introduced in the simple regression model.

Standard coefficient values (BETA) of knowledge acquiring value (0.686) indicates the impact of knowledge acquiring on supply chain performance.

The results of the hypothesis showed that there is a statistically significant impact at (α= 0.05) level of knowledge acquiring on supply chain performance since (β) value is (0.677)

Third Sub- Hypotheses

There is no statistically significant impact at (α<.05) of knowledge storage on supply chain performance

Table-8: results indicate that the regression coefficient (β)

Mode	Sum of Squares	Df	Mean Square	F	Sig
Regression	76.426	1	76.426	268.499	000
Residual	67.745	238	285.		
Total	144.171	239			

Table-8 results indicate that the regression coefficient (β) for knowledge management is significant. Therefore there is a statistically significant impact at significance level (α= 0.05) of knowledge storage T- Calculated (3.790) value confirms this impact Moreover the significant value = 0.000 is less than the significant level (α= 0.05). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact of knowledge storage on supply chain performance.

Table also indicated that the correlation coefficient was (R = .728), which indicate a positive relation between independent variable and dependent variable, in addition value of Coefficient of Determination(R2) is (0.530) which indicate that (% 36.9) of variance in supply chain performance may be interpreted through knowledge storage while the rest percent (% 47.) is attributed to other variables which were not introduced in the simple regression model.

Standard coefficient values (BETA) of knowledge sharing value (0.728) indicates the impact of knowledge storage on supply chain performance.

The results of the hypothesis showed that there is a statistically significant impact at (α= 0.05) level of knowledge storage on supply chain performance since (β) value is (0.820).

Fourth Sub- Hypotheses

There is no statistically significant impact at (α<.05) of knowledge sharing on supply chain performance

Table-9: Regression model Validation

Mode	Sum of Squares	Df	Mean Square	F	Sig.
Regression	76.426	1	76.426	268.499	000[a]
Residual	67.745	238	.285		
Total	144.171	239			

Table-9 indicated that F calculated value =268.499 is more that tabulated F and Sig value is (0.000) which is less than (α-0.05), which means the validity of simple regression, so there is an impact of knowledge sharing on supply chain performance Therefore it is possible to use the simple regression for measuring the impact of knowledge sharing. Table-10 indicates the results of simple regression as follows

Table-10: results indicate that the regression coefficient

Variable	(β)	T-calculated	Sig	BETA
Constant	.684	3.790	.000	
Knowledge Sharing	.802	16.386	.000	728
Coefficient correlation (R)	.728			
Coefficient of Determination (R^2)	.530			

Table-10 results indicate that the regression coefficient (β) for knowledge management is significant. Therefore there is a statistically significant impact at significance level (α= 0.05) of knowledge sharing. T- Calculated (3.790) value confirms this impact Moreover the significant value = 0.000 is less than the significant level (α= 0.05). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact of knowledge sharing on supply chain performance.

Table also indicated that the correlation coefficient was (R = .728), which indicate a positive relation between independent variable and dependent variable, in addition value of Coefficient of Determination(R^2) is (0.530) which indicate that (% 36.9) of variance in supply chain performance may be interpreted through knowledge sharing while the rest percent (% 47.) is attributed to other variables which were not introduced in the simple regression model.

Standard coefficient values (BETA) of knowledge sharing value (0.728) indicates the impact of knowledge sharing on supply chain performance.
The results of the hypothesis showed that there is a statistically significant impact at (α= 0.05) level of knowledge sharing on supply chain performance since (β) value is (0.820)

Fifth- Hypotheses

There is no statistically significant impact at (α<.05) of knowledge application on supply chain performance.

To test this hypothesis simple linear regression was used, before verifying the egression model validation.

Table-11: Regression model Validation

Mode	Sum of Squares	Df	Mean Square	F	Sig.
Regression	46.541	1	46.541	113.455	000[a]
Residual	97.631	238	.410		
Total	144.171	239			

Table-11 indicated that F calculated value =113.455 is more that tabulated F and Sig value is (0.000) which is less than (α-0.05), which means the validity of simple regression, so there is an impact of knowledge application on supply chain performance . Therefore it is possible to use the simple regression for measuring the impact of knowledge application. Table-12 indicates the results of simple regression as follows;

Table-12: Results indicate that the regression coefficient

Variable	(β)	T-calculated	Sig	BETA
Constant	1.818	10.621	.000	
Knowledge application	.536	10.652	.000	.568
Coefficient correlation (R)	.568			
Coefficient of Determination (R^2)	.323			

Table-12 results indicate that the regression coefficient (β) for knowledge application is significant. Therefore there is a statistically significant effect at significance level (α= 0.05) of knowledge application. T- Calculated (10.652) value confirms this effect. Moreover the significant value = 0.000 is less than the significant level (α= 0.05). Therefore the null hypothesis is rejected and the alternative one is accepted. This means that there is a statistically significant impact of knowledge application on supply chain performance

Table also indicated that the correlation coefficient was (R = .568), which indicate a positive relation between independent variable and dependent variable, in addition value of Coefficient of Determination(R^2) is (0.568) which indicate that (% 56.8) of variance in supply chain performance may be interpreted through knowledge application while the rest percent (% 43.2.) is attributed to other variables which were not introduced in the simple regression model.

Standard coefficient values (BETA) of economic value (0.568) indicates the impact of knowledge application on supply chain performance.

The results of the hypothesis showed that there is a statistically significant effect at (α= 0.05) level of knowledge application since (β) value is (0.568)

FINDINGS AND RECOMMENDATIONS

Based on the analysis the following were concluded

There is a statistically significant impact at (α<.05) of knowledge management (knowledge creation, knowledge acquiring, knowledge storage, knowledge sharing, and knowledge application) on supply chain performance.

There is a statistically significant effect at (α= 0.05) level of knowledge creation on supply chain performance since (β) value is (0.839)

There is a statistically significant impact at (α= 0.05) level of knowledge acquiring on supply chain performance since (β) value is (0.677)

There is a statistically significant impact at (α= 0.05) level of knowledge storage on supply chain performance since (β) value is (0.820)

There is a statistically significant impact at (α= 0.05) level of knowledge sharing on supply chain performance since (β) value is (0.820)

There is a statistically significant effect at (α= 0.05) level of knowledge application since (β) value is (0.568)

Recommendations

Due to the importance of knowledge in today's companies, telecommunication companies in Jordan are requested to motivate their employees exchange and share knowledge to get the best benefit for all. Telecommunication companies are requested to hold seminars and meetings inside the companies' offices to exchange knowledge with all staff

REFERENCES

1. Dictionary, M. W. S. C. (1996). Springfield, Massachusetts: Merriam-Webster.
2. Evangelista, P., Esposito, E., Lauro, V., & Raffa, M. (2010). The adoption of knowledge management systems in small firms. *Electronic Journal of Knowledge Management*, *8*(1).
3. Michael, D. G., Adamson, P., Alexopoulos, T., Allison, W. W. M., Alner, G. J., Anderson, K., Kotelnikov, S. K., & Avvakumov, S. (2008). The magnetized steel and scintillator calorimeters of the MINOS experiment. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, *596*(2), 190-228.
4. Jobs, S. P., Forstall, S., Christie, G., Lemay, S. O., Herz, S., Van Os, M., King, V.S., & Coffman, P. L. (2009). *U.S. Patent No. 7,479,949*. Washington, DC: U.S. Patent and Trademark Office.
5. Dost, M. K. B., & Rehman, A. (2016). Significance of Knowledge Management Practices Effecting Supply Chain Performance. *Pakistan Journal of Commerce & Social Sciences*, *10*(3).
6. Bresnen, M., Edelman, L., Newell, S., Scarbrough, H., & Swan, J. (2003). Social practices and the management of knowledge in project environments. *International journal of project management*, *21*(3), 157-166.
7. Chen, Z., Ren, W., Gao, L., Liu, B., Pei, S., & Cheng, H. M. (2011). Three-dimensional flexible and conductive interconnected graphene networks grown by chemical vapour deposition. *Nature materials*, *10*(6), 424-428.
8. Simchi-Levi, D., Simchi-Levi, E., & Kaminsky, P. (1999). *Designing and managing the supply chain: Concepts, strategies, and cases*. New York: McGraw-Hill.
9. Ananda-Rajah, M. R., Grigg, A., Downey, M. T., Bajel, A., Spelman, T., Cheng, A., ... & Slavin, M. A. (2012). Comparative clinical effectiveness of prophylactic voriconazole/posaconazole to fluconazole/itraconazole in patients with acute myeloid leukemia/myelodysplastic syndrome undergoing cytotoxic chemotherapy over a 12-year period. *haematologica*, *97*(3), 459-463.
10. Maestrini, V., Luzzini, D., Maccarrone, P., & Caniato, F. (2017). Supply chain performance measurement systems: A systematic review and research agenda. *International Journal of Production Economics*, *183*, 299-315.

11. Shakerian, H., Dehnavi, D. H., & Shateri, F. (2016). International Conference of New Challenges in Management and Organization: Organizationand Leadership, Social and Behavioral Sciences 230 pp176 – 183.
12. Balfaqih, H., Nopiah, Z.M., Saibani, N. and Al-Nory, M.T., 2016. Review of supply chain performance measurement systems: 1998–2015. *Computers in Industry*, *82*, pp.135-150.
13. Sangari, M. S., Hosnavi, R., & Zahedi, M. R. (2015). The impact of knowledge management processes on supply chain performance: An empirical study. *The International Journal of Logistics Management*, *26*(3), 603-626.
14. Ryoo, S. Y., & Kim, K. K. (2015). The impact of knowledge complementarities on supply chain performance through knowledge exchange. *Expert Systems with Applications*, *42*(6), 3029-3040.
15. Kanat, S., & Atilgan, T. (2014). Effects of knowledge management on supply chain management in the clothing sector: Turkish case. *Fibres & Textiles in Eastern Europe*, (1 (103)), 9-13.
16. Blome, C., Schoenherr, T., & Eckstein, D. (2014). The impact of knowledge transfer and complexity on supply chain flexibility: A knowledge-based view. *International Journal of Production Economics*, *147*, 307-316.
17. Patil, S. K., & Kant, R. (2016). Evaluating the impact of Knowledge Management adoption on Supply Chain performance by BSC-FANP approach: An empirical case study. *Tékhne*, *14*(1), 52-74.
18. Samuel, K. E., Goury, M. L., Gunasekaran, A., & Spalanzani, A. (2011). Knowledge management in supply chain: An empirical study from France. *The Journal of Strategic Information Systems*, *20*(3), 283-306.
19. Finch, C. E. (1994). *Longevity, senescence, and the genome*. University of Chicago Press.
20. Camm, A. J., Kirchhof, P., Lip, G. Y., Schotten, U., Savelieva, I., Ernst, S., ... & Heidbuchel, H. (2010). Guidelines for the management of atrial fibrillation: the Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC). *European heart journal*, *31*(19), 2369-429.
21. Dumitrache, I., Stanescu, A. M., Caramihai, S. I., Voinescu, M., Moisescu, M. A., & Sacala, I. S. (2009). Knowledge management based supply chain in learning organization. *IFAC Proceedings Volumes*, *42*(4), 121-126.
22. Fawcett, S. E., Osterhaus, P., Magnan, G. M., Brau, J. C., & McCarter, M. W. (2007). Information sharing and supply chain performance: the role of connectivity and willingness. *Supply Chain Management: An International Journal*, *12*(5), 358-368.

THE STUDY QUESTIONNAIRE

Dear Respondent

The researcher is investigating "The Impact of Knowledge Management on supply chain performance you are kindly requested to read the instrument paragraphs and to answer accurately, knowing that the obtained information will be kept confidential

Please accept best consideration Researcher

Part I: Demographic Variables

Please tick (√) in the appropriate box:

1. Gender: □ Male □ Female
2. Age: □ less than 25 □ 26 to less than 35 □ 35 to less than 45 □ 45 +
3. Education Level: □ Less than Bachelor □ Bachelor □ MSC □ PhD
4. Experience: □ Less than 5 years □ 5 to less than 10 years □ 10- to less than 15 years □ 15 +
6. Job Title: □ Director □ Deputy, □ Department Head □ Section Head □ Employee

Second Part

The second part is related with the impact of knowledge management on supply chain performance

No		S.Agree	Agree	Neutral	Disagree	S.Disagree
	Knowledge Creation					
1-	The Company provides a system for collecting information about clients and the services provided to them					
2	The Company is interested in developing employees knowledge					
3	Encourage scientific dialogue between the employees of the company -					
4	Providing work policies that support the freedom of scientific research					
	Knowledge Acquiring					
5	The company administration is interested in acquiring knowledge related to its services activities					
6	Provide an appropriate budget to support knowledge management projects					
7	Supporting good and creative ideas for improving supply chain performance					
8	Provide mechanisms for receiving views and proposals related to improve supply chain performance					
	Knowledge Storage					
9	The Company l maintains knowledge in a flexible manner					
10	.The Company uses electronic media forknowledge storage					
11	The Company maintains all new ideas.					
12	The company documents staff experiences					
	Knowledge Sharing					
13	The Company organizes periodic meetings to share knowledge					
14	The Company establishes mutual trust among employees in exchange of information					
15	The company facilitates communication between employees					
16	The Company provides employees with all requirements to access knowledge					
	Knowledge Application					
17	The company uses information systems in its daily activities					
18	Knowledge management is used in strategic planning					
19	The Company uses knowledge management in decision-making					
20	Human resources are available to manage knowledge at the company					