

Investigating the Relationship Between Knowledge Management Processes and Organizational Performance The Mediating Effect of Organizational Innovation

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Abstract

Organizations in all business aspects are coming to view knowledge management as the most valuable and strategic assets, and trying hard to look for new ways to improve their performance through multiple characteristics like innovation and knowledge management which should be already embedded in organization. The purpose of this study is to explore the relationship between Knowledge Management Processes, Organizational Innovation and Organizational Performance in the context of telecommunication and information technology industry. More specifically, the main objective of the study is to investigate the mediating effect of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance. The proposed model was tested on data were obtain through survey conducted on managers of Jordanian telecommunication and information technology companies. Multiple regression and path analysis using SPSS- AMOS 18 was conducted to verify the reliability and validity of the multi-item scales and to test the hypothesized relationships. However, the findings confirm a positive and strong effect of Knowledge Management Processes on Organizational Innovation and Organizational Performance. Result also indicates a positive effect of Organizational Innovation on Organizational Performance. In addition, the results provide evidence of the mediating effect of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance. The findings contribute to understanding the relationship between Knowledge Management Processes, Organizational Innovation and Organizational Performance.

Key Words: Knowledge Management Processes, Organizational Innovation, Organizational Performance.

Introduction

Jordanian Telecommunication and information technology organizations as other sectors in the industries are lived in a dynamic business environment and influenced by the events that happen around (Ben Zaid et al., 2015), and so they are exposed to pressures to improve product or service quality which is presented to the customers in addition to reduce the cost and to compete other products with high quality. However, Scholars addressed the knowledge management, organizational innovation and organizational performance relationship in deferent ways. To this end Tubigi and Alshawi, (2015) indicated the impact of knowledge management processes on organizational performance.. Similarly, Al-Hakm and Hassan (2012) examined the impact of knowledge management on the excellence of the organizational performance. Furthermore, studies revealed a positive relationship between knowledge management and innovations in the organizations, (Noruzy et al., 2013). Moreover, Al-Faris (2010) indicated the relationship between knowledge management and total quality management in addition to an effect to this integration in the organizations' performance. Nevertheless, Kharabsheh et al., (2012) adopted knowledge management practices in improving the company's operational and financial performance .Meanwhile Marques et al., (2014) examined the effect of strategic knowledge management and innovation on the organization's performance. Likewise, Tseng and Lee (2014).indicated the effect of knowledge management capabilities on organizational performance. Additionally, Rajneesh and Kaur, (2014) realized that knowledge management affect organizational performance in terms of profitability, sales, operational and financial efficiency, shareholders' satisfaction and competitive situation. Furthermore, Darroch, (2005) argued that an organization that has high capabilities to manage its knowledge will use its resources more efficiently and will be more innovative leading to improve its performance. However, Scholars in marketing field also addressed this interrelationship. According to Holm and Sharma (2006), there is a direct and indirect impact of marketing knowledge on perceived performance. To this end, Hanvanich et al.,(2003) argued that Marketing innovation through the assistance of marketing knowledge can uncover hidden demand or create new demand. As marketing innovation can be created through interaction between tacit and explicit marketing knowledge within and outside organizational boundaries, developing new market innovation may flourish new marketing knowledge. Similarly, scholars hypothesized that marketing knowledge is a trigger for marketing innovation and marketing performance (Holm and Sharma, 2006; Akroush and Al-Mohammad, 2010).On contrary, Alrubaiee et al., (2013) study result indicated appositve effect of marketing innovation on marketing knowledgeof Jordanian telecommunications companies .Result also indicated the indirect effect of marketing innovation on marketing performance through marketing knowledge as mediator. However, these results indicate the dual role of marketing innovation as both direct contributor to marketing performance and as indirect contributor through marketing knowledge. Therefore, it washypothesized that the relationship between marketing knowledge and marketing innovation is mutual (Alrubaiee et al., (2013). However, In the context of Jordan and despite interest shown by business and academic domains, research into Knowledge Management is still lacking (Akroush and Al-Mohammad, 2010). Moreover, while the empirical evidence is not, unequivocal, the generalizability of its impact required further research. Therefore, further understanding of Knowledge Management implementation and its relationship to Organizational Innovation and Organizational Performance in Jordanian Telecommunication and information technology organizations is required. Hence, research studying the association between these concepts is considered to be worthwhile, in order to justify interest and investments in such concept.

Literature Review

Knowledge Management Process

Researchers identify knowledge as a mixture of concepts, ideas, rules, and procedures that guide actions and decisions (Emadzade et al., 2012).It also defined as the integrative systematic process to coordinate the

organization's activities in light of identifying the cognitive needs and acquiring, transferring, storing, sharing and applying the knowledge to achieve the organizational goals which help the organization to be able to achieve better value and benefit from the knowledge it has (Jennex and Olfman, 2004). According to Quintas (2002). Knowledge is the most important intangible asset, therefore business managers strive in many ways to use this asset to create the highest value (Tseng and Lee, 2014).

Nevertheless, Knowledge has been distinguished for its ability for application, integrating the theoretical information with practical experience and the general system of the individuals and the organizations producing a capability or a new gift called knowledge (Giovanni, 2012). Consequently, along with time, this knowledge may become old or usefulness so it needs a continuous maintenance and improvement. However, it is possible to determine who own knowledge whether they are the owners by their minds which is called by the systematic knowledge or which is available by other means as databases, files, systems, regulations and others represent the explicit knowledge. Many opinions agree on the general content of knowledge management but they vary in the accurate description of the inputs and processes of knowledge management (Al-Faris, 2010). To this end, Zwain et al., (2010), defined Knowledge management as the organized collection of information from sources inside and outside the organization, then analyzing and interpreting them so as to conclude indications used in guiding and enriching the organization's processes to improve the performance till it reach higher achievement. It also, implies the integrated systematic entry of the management and the activation of the participation in the organization's information including databases, documents, policies, procedures in addition to the employees' past experience (Prusak, 2001). Therefore, knowledge should be employed to solve problems facing the organization and knowledge application should aim at achieving the organization's goals. Nevertheless, Allameh and Abbas, (2010) classified knowledge into three levels:

- 1) Core Knowledge: minimum amount of knowledge which is necessary for the completion of teaching process.
- 2) Advanced Knowledge: knowledge that help the organizations to be competitive for having its own knowledge.
- 3) Innovative Knowledge: knowledge that enable the organizations to govern its industry and competitors.

Whereas Organization for *EconomicCo-operation and Development (OECD)* divided knowledge to the following types (Fairoz et al., 2010):

- 1- Procedural knowledge (KNOW-HOW) which includes the skills and the capability of making things or doing them.
- 2- Cognitive knowledge (KNOW-WHAT): it means knowing facts and achieving the highest experience in the problem or the subject.
- 3- Causative knowledge (KNOW-WHY): it means the scientific knowledge of the principles and it requires deep thinking.
- 4- Knowledge of (KNOW-WHO) which is interested in who knows what things are done and who knows how things are done.

On the other side, Tubigi and Alshawi (2015) addressed the processes of the knowledge management as some other researchers relied on characteristics to distinguish between every process where to start and where to end. However, there are common processes between those researchers. However, Zwain et al., (2012) conducted the following dimensions of the knowledge management process: knowledge identification, knowledge acquisition & Transferring, knowledge storage, knowledge sharing, knowledge application. Hence, these processes depend on each other; therefore, based on the previous studies, this study address knowledge management processes within the following five dimensions:

- Knowledge Identification process: implies for the knowledge gap which represents the knowledge which is already existed compared with the knowledge that the organization should know and this is called knowledge Map Drawing.
- Knowledge Acquisition & Transferring: refer to the process of creating and forming the knowledge and its components inside the organization and so the implicit knowledge is transformed into explicit knowledge.
- Knowledge storage: means the process of keeping the knowledge in the organizational knowledge base and it is measured by the extent of the availability of databases and information systems to store information and take necessary procedures to protect this knowledge from misuse or theft.
- Knowledge sharing: relies on the process of transferring the correct knowledge to the people who need it in the appropriate time to do their work and it is measured by information technology systems to facilitate sharing process and the motivated work environment.
- Knowledge Application: is the practices and getting benefit of them in the field and this knowledge is applied daily at work and it is measured by the authorized programs and the initiations in addition to the scales and indicators to check the levels of the knowledge application.

The Role of Knowledge Management Process

Allen and Helms, (2006) argued that the role of knowledge management process to achieve the best performance can be summarized as following:

1. Generating the new and beneficial knowledge and storing, distributing it facilitate work at the organization.
2. Having a specialized team in getting knowledge and investing it regardless of the employees' participation and interaction and an effective leadership that leads those processes to make a change and difference that can lead to (Venkatraman and Vasudevan, 1986):
 - I. Reduction of the gross costs of work through reducing costs of waste, bad product, sales' refunds, in addition to the costs of misuse of technology and means of work.
 - II. The increase of financial returns to the organization through producing goods with good quality and creative ones.
 - III. High productivity achievement indicates the qualified use of the inputs and the application of knowledge management in different fields of performance leads to innovation and more effective methods.
 - IV. Knowledge management helps in achieving creativity, innovation and increasing the employee's awareness through training, learning and dialogue.

Therefore, it is believed that knowledge and innovation affect the organization's performance represented by its capability in reaching an advanced stage in having indications and standards to measure its performance as (relation with customers, internal processes and employees' learning and progress) in addition to the financial indications. As we are in the third millennium, the organizations should adopt standards of cognitive performance that are compatible with business sector and transfer it to knowledge economy and technology.

Organizational Innovation

Innovation has different definitions as it is not only creating a product or a new service but it means creating and sending the new product to the market and so organizational innovation is represented by the organization's ability to transfer the knowledge of its human resources and integrate it to have new knowledge that produces a new product or a process (Ben Zaied et al., 2015). However, the organizational innovation is the competitive advantage that can be obtained from the qualified human resources which

enable the organizations to compete on the basis of quality and innovation (Marques et al., 2014). It is necessary to distinguish between innovation and creativity as creativity means the ability to present original ideas without taking into account their ability for application while innovation points to the practical application (Noruzy et al., 2013). Creativity as a word points to something and focuses on abstract ideas without being aware of daily problems that facing the manager and the ideas are judged for their originality not for their benefits for the customers and the organization. While innovation is ideas' application and so the problem for the organization is not lack of ideas but the application of the ideas as well innovation refer to the successful application of the creative ideas inside the organization (Al-Hakm and Hassan, 2012).

The organizational innovation is believed to be the capability of generating value, products, services, ideas (Du Plessis, 2007). It also, beneficial and original procedures achieving a change and development in the organization's outcomes and it is represented by the capability to create methods and techniques and ideas for work that help in improving work field's circumstances, employees' motivation, increasing employees' capabilities and talents to achieve the best productivity goals and performance (Çakar and Erturk, 2010). However, the study relied on the following three dimensions of the organizational innovation:

- **Process Innovation:** implies the capability to generate beneficial and original procedures to achieve a kind of change and development in the organization's outcomes and it also represented in the capability to create methods and ideas for work that help in improving work circumstances, motivating the employees and their capabilities in addition to increase their talents so as to achieve the best performance and productivity goals.
- **Product Innovation:** means the capability to generate value, products, services, beneficial ideas and genuine to achieve the best productivity and performance goals.
- **Innovation Capabilities:** refer to the employees' capability to create new methods to do their work and create products or genuine processes.

Organizational Performance

Performance is the end result of activities; it includes the actual outcomes of the strategic management process (Alrubaiee, 2012). Likewise Ben Zaid et al., (2015) posited that the organizational performance is represented by the success in achieving its goals. Organizational performance constitutes all behaviors related to organizational objectives depending on the contribution levels of individuals to the organization (Borman and Motowidlo, 1993). However, the organizational performance is the mirror that reflects the organization's ability in achieving high productivity provided it is combined with the customers' satisfaction and having a well market share that can provide a suitable financial refund and do social and ethic responsibilities towards the environment where the organization works and the society (Tubigi and Al shawi, 2015). Similarly, scholars considered organizational performance as the achieved results of the interaction between the activities of communication and information technology sector and its resources or the difference between the financial goals and the non-financial ones in a specific period of time (Rajneesh and Kaur, 2014). Furthermore, Venkatraman and Vasudevan, (1986) noted that measurement for the organizational performance relies on the fields of performance in the business organizations vary and differ according to their different businesses, nature of activities and the degree of focus on the fields that is believed to achieve goals are considered a priority for the organization (e.g. Giovanni, 2012). Although scholars have different attitudes towards identifying fields of performance and ways of measuring them, hence some of them pay attention to the shareholders' goals as major fields of performance that the organization should rely on measuring the performance. Darroch (2005) conclude that the financial performance will remain the field that determines the extent of the organization's success and its inability to achieve the basic level of the financial performance. However, its existence will be in danger, only if the performance includes non financial scales, the background image of the performance will show up the thing which the financial indications fail to do (Zainol and Ayadurai, 2011). In consistent with this, Sink

and Tuttle (1989) also realized that performance should not be treated only as a financial concept. Thus, it is suggested that particularly in the service sector, non-financial performance should receive serious consideration.

Nofal et al., (2014) argued that relying only on the financial ratios in evaluating the performance gives incomplete image about the organization. Therefore, this method in evaluation should be enhanced and supported by operational performance's scales to build measurement system for effective performance in the organization such as market share, customer retain. To this end, Noruzy et al., (2013) argued that if the manager cares of the total performance of the organization, he will be able to create a balance between the operational and the financial interests. Traditionally, firm performance has been viewed and measured in accounting terms. An additional issue should be raised here; due to confidentiality concerns, it is often challenging to obtain actual accounting data from organizations unless they are publicly quoted companies. Coulter and Robbins (1996) further pointed out that performance is an objectively existing fact that provides both objective and subjective evaluation. As a result, previous research studies looking into performance related issues used self-reported financial and non-financial performance measures (Alrubaiee, 2012). However, Tseng and Lee, 2014, pointed out, that some scholars have continually discussed the organizational performance measurement index. For example, Tippins and Sohi (2003) suggested profitability, rate of return on investment, customer retention, and sales growth rate as the organizational performance measurement indexes, while Lee and Choi (2003) suggested market share rate, comparisons of success with other companies, growth rate, profitability, and ability to innovate as the organizational performance measurement indexes.

Although organizational performance encompasses many specific areas of firm outcomes (i.e. dimensions) (Richard et al., 2009; Thang et al., 2008; Morgan and Strong, 2003; Nwokah, 2008), we focused only on four key dimensions to measure organizational performance: Profitability, market share, sales growth, and customer satisfaction.

Therefore, the study evaluates organizational performance using the subjective approach to measuring performance of Telecommunication and information technology organization relative to its competitors across four attributes: profitability, market share, sales growth, and customer satisfaction.. A number of authors defend the adequacy of subjective measures as opposed to objective ones (Pertusa-Ortega et al. 2010). Conceptually, growth reflects increases in sales and is often reflected in market share gains. Growth in sales and market share are important to a business to ensure long-term viability and resource availability. Profitability primarily reflects current performance (Venkatraman and Vasudevan 1986). Similarly, profitability is considered by Hunt and Morgan (1995) as the ultimate organizational outcome and is commonly used in strategic management studies. Furthermore, Vorhies and Harker (2000) argued that customer satisfaction represents the effectiveness of the organization in delivering value to its customers and is often viewed as an antecedent to profitability (Alrubaiee, 2013).

Relationship Between Knowledge Management Process, Organizational Innovation and Organizational Performance

As regards the impact of innovation on performance, the theoretical and empirical literature reflects the importance of firms innovating to achieve enhanced performance. (Carmen and Jose, 2008). However, many studies have explored the impact of innovation on performance (Han et al., 1998; Agarwal et al., 2003; Hult et al., 2004; Zheng et al., 2005; Farhangmehr et al., 2006; Kiessling et al, 2009; amongst others). With regard to the mediating role of innovation, we find few works that show evidence on different contexts. Han et al. (1998), in the case of banks, find a positive and significant effect for each of the components of market orientation on technological and administrative innovations. Carmen and Jose, 2008 indicated mediating role of innovation, This evidences that the best way to account for the outcomes is by considering

innovation as a mediating variable. Akroush and Al-Mohammad (2010) noted, that there is a consensus amongst Knowledge Management researchers that effective Knowledge Management is a source of competitive advantage and improved performance (e.g. Pitt and Clarke, 1999; Barchan, 1998; Carrillo et al., 2003; Carrion et al., 2004; Wong, 2004; Darroch, 2005; Tseng and Lee, 2014; Tanriverdi, 2005; White, 2005; Young, 2006). However, Kör and Maden (2013) study result show that knowledge management processes and organizational innovativeness significantly influence innovation types (i.e., administrative and technical). The results also indicate that knowledge management processes relate positively to innovativeness, which in turn increases innovation in organizations. The findings support the partial mediation effect of organizational innovativeness between knowledge management processes and administrative innovation. Likewise, Tseng and Lee (2014) indicated the effect of knowledge management capabilities on organizational performance.

Conceptual Framework and Hypotheses Development

Conceptual Framework

It is now possible to develop an overall model summarizing the hypotheses and reflects a causal ordering derived from the literature reviewed above. The proposed structural model guiding this research is depicted in Figure 1. It builds on core linkages between study variables: Knowledge Management Processes, Organizational Innovation and Organizational Performance. As can be seen in the figure, we Hypothesized Knowledge Management Processes as a multi-dimensional construct consisting of five dimensions: Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application. However, Organizational Innovation as mediator consists of three dimensions: Processes innovation, Product innovation, and Innovation capabilities. Likewise, Organizational Performance as dependent variable consists of four dimensions: Profitability, market share, sales growth, and customer satisfaction. The research hypotheses are represented in the Figure. Knowledge Management Processes is believed to have a positive effect on Organizational Innovation, (H1). It is suggested also that the Organizational Innovation lead to Organizational Performance (H2). Likewise, Knowledge Management Processes is posited to have a positive influence on Organizational Performance (H3). Finally, as for indirect effects, Organizational Innovation are proposed as the mediator that connect or bridge Knowledge Management Processes with the Organizational Performance (H4).

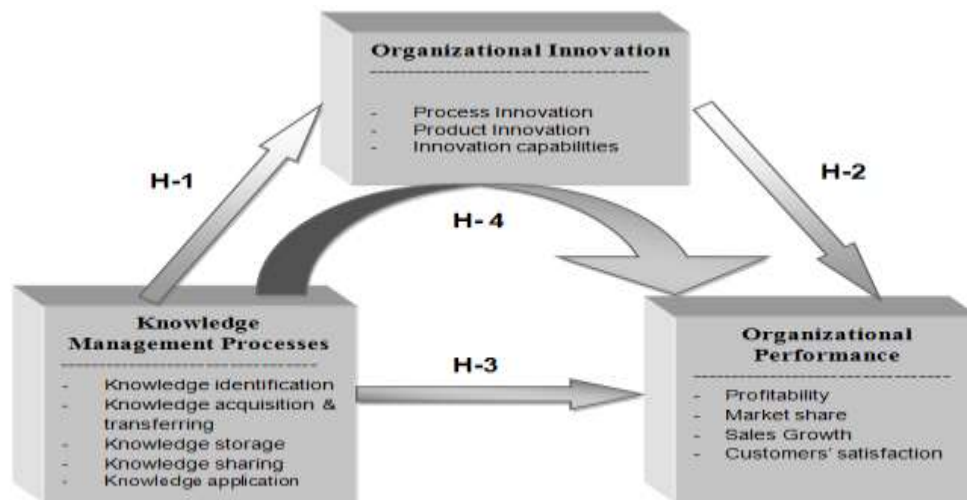


Figure1. The Conceptual Model

Research Hypotheses

The hypothesized relationships of the proposed structural model guiding this research are illustrated in Figure 1. Therefore, to examine these relationships the following hypotheses are formulated:

H1: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities).

H2: Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities) has a positive effect on Organizational Performance (Profitability, market share, sales growth, and customer satisfaction).

H3: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organizational Performance (Profitability, market share, sales growth, and customer satisfaction).

H4: Organizational Innovation mediates the effect of Knowledge Management Processes on Organizational Performance.

Research Design and Methodology

This study is exploratory, quantitative in nature, aiming to develop a better understanding of the relationships among Knowledge Management Processes, Organizational Innovation and Organizational Performance in the context of telecommunication and information technology industry in Amman. However, the study is empirical based on the primary data collected from executives or general managers of the organizations. More specifically, the study intends to empirically investigate the mediating effect of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance.

Study Sample and Respondents Demographics

The proposed model was tested on data were obtain through survey conducted on managers of telecommunication and information technology companies in Amman –Jordan in February – march 2013 (Al Ali, 2013). According to the annual report of the Communications and Information Technology Association of Jordan (2012) the total registered number of companies based on Intaj@ publications was 400. It includes five groups: Telecom, Online and Mobile Content and Applications, software, information technology infrastructure. Self administrated questionnaire was distributed (direct and online) to a total of 200 executive or general managers of the companies.

A total of 103 respondents returned surveys, of which 11 questionnaires were rejected due to the lack of some information. Thus, total of 92 valid questionnaires were finally obtained, giving response rate of 46%. The questionnaire was administered in Arabic. Most of the respondents represented mainly by male constituted 72.7%. Majority (61%) of the respondents were ages from 30 to 40 years old and 20% between 41 and 50 years old. Respondent's level of education primarily represented by 65.7% university graduate degree followed by MBA degree holders (26%). About 58% of the respondents' specializations were computer sciences, information technology and electronics. However, according to experience, (50%) of the respondents have experience between (11-15 year) in communications sector.

Measurement Scales

As regards the measures of the study variables, three multi-item scales were proposed to operationalize the variables of the conceptual model. The study adopted those existing scales previously validated by other authors, adapting the items to the context of telecommunication and information technology. To measure Knowledge Management Processes Authors followed the scale proposed by Lee and Choi (2003); Darroch, 2005; Lee and Sukoco, 2007; Gold et al. (2001); Kiessling et al., 2009. The measure is composed of five dimensions (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) and assessed with 33 items. Each item was scored on five -point Likert scale with anchors of 1 = 'strongly disagree' and 5= strongly agree. However, Organizational Innovation is composed of three dimensions (Processes innovation, Product innovation, and Innovation capabilities) and was assessed with 18 items derived from Marques and Simon, 2006 ; Lee and Sukoco., 2007; Dansion, 2000; Aldas-Manzano et al., 2005; Gold et al., 2001; Darroch, 2005 ; Kiessling et al., 2009. Each item was also scored on five -point Likert scale with anchors of 1 = 'strongly disagree' and 5= strongly agree. Organizational Performance is composed of four dimensions (Profitability, market share, sales growth, and customer satisfaction) and was assessed with 9 items derived from Marques and Simon, (2006); Kohli and Jaworski, 1990; Green Jr et al. 2006 and Gray et al. 1998; Sin et al., 2002, Sin et al., 2003. , Organizational performance was assessed with nine items that asked respondents to evaluate their firm's Organizational performance i.e. profitability, market share, sales growth and customer satisfaction over the last five years relative to their competitor. Five -point scales with anchor points of 1 ("much lower") to 5 ("much higher") were used.

Result

Validation of Measures

The preliminary analysis indicated that the psychometric properties of the measures were acceptable to examine the four main hypotheses of the study. As for the internal consistency, in order to analyze the reliability of the scales, we evaluate the Cronbach's alpha coefficients of each latent construct. As shown in table 1 all the values are acceptable, which is greater than 0.7 as suggested by Nunnally (1978). Cronbach's coefficient alpha is 0.90 for knowledge management processes and 0.84 for organizational innovation as well as 0.90 for organizational performance. However, prior to hypothesis testing, to ensure that the data were robust, analyses for both convergent and discriminant validity were undertaken. Scholars (e.g. Gaski and Nevin, 1985; O'Cass, 2002; Patterson and Smith, 2003) reported that Discriminant validity can be verified if the correlation between two composite constructs is not higher than their reliability estimates (O'Cass and Ngo, 2007). Accordingly Construct correlations as shown in table 2 were, therefore, compared to their respective reliabilities (table 1) and the results indicated that the correlation between every two composite constructs is not higher than their reliability estimates. The correlation between Knowledge Management Processes and Organizational Innovation was 0.813 and the respective reliabilities were 0.90 and 0.84. Likewise, the correlation between Knowledge Management Processes and Organizational performance was 0.627 and the respective reliabilities were 0.90 and 0.90.

However, The correlation between Organizational Innovation and Organizational performance was 0.517 and the respective reliabilities were 0.84 and 0.90. Nevertheless, the estimated correlation between all construct pairs is below the suggested cutoff of 0.90 and implies distinctness in construct content or discriminant validity (1980; Bagozzi, 1992; Fornell and Bookstein, 1982; Fornell and Larcker, 1981). Where as, Convergent validity refers to the principle that the items of a construct be at least moderately correlated. That is, that a measure correlates with other indicators of the construct. As such the high correlations between every construct and its indicators illustrate high reliability (O'Cass and Ngo, 2007). As regard Nomological validity, Nomological validity was assessed by examining the predictive power of a construct

for another reflective construct. However, Nomological validity shows the ability of a scale to behave as expected with respect to some other constructs to which it is related (Churchill,1995). There are well-grounded.

Table 1 : Descriptive Statistics and Cronbach's Alpha Coefficient of study variables

No	Construct and dimensions	No of Items	Mean	St. Deviation
1	Knowledge identification	3	3.85	0.82
2	Knowledge acquisition & transferring	8	3.71	0.90
3	Knowledge storage & retrieving	10	3.95	0.77
4	Knowledge sharing	5	3.90	1.01
5	Knowledge application	7	3.58	0.89
Knowledge management processes (@= 090)		33	3.80	0.88
1	Processes innovation	6	4.17	0.74
2	Product innovation	4	4.02	0.83
3	Innovation capabilities	8	3.52	1.01
Organizational innovation (@= 084)		18	3.87	0.88
1	Profitability	2	3.68	0.94
2	Market share	2	3.60	0.94
3	Sales growth	2	3.68	0.95
4	Customers' satisfaction	3	3.51	0.72
Organizational performance (@ = 090)		9	3.62	0.89

Table 2 : Correlation coefficients of study contracts

		Knowledge management processes	Organizational innovation
Knowledge management processes			
Organizational innovation		0.813***	
1	Processes innovation	0.788***	
2	Product innovation	0.832***	
3	Innovation capabilities	0.904***	
Organizational performance		0.628***	0.517***
1	Profitability	0.512***	0.456**
2	Market share	0.491**	0.371**
3	Sales growth	0.692***	0.553***
4	Customers' satisfaction	0.662***	0.629***

*** $P < 0.001$, ** $P < 0.01$

Theoretical reasons to expect a positive association between Knowledge Management Processes and Organizational Performance(Kör and Maden (2013) ; (e.g. Pitt and Clarke, 1999; Barchan, 1998; Carrillo et al. , 2003;Carrion et al., 2004; Wong, 2004; Darroch, 2005; Tseng and lee, 2014; Tanriverdi,2005;White, 2005; Young, 2006) as well as between Organizational Innovation and Organizational Performance(e.g. Han et al., 1998; Agarwal et al., 2003; Hult et al., 2004; Zheng et al., 2005; Farhangmehr et al., 2006; Keskin, 2006; amongst others). Thus, in the current context, nomological validity would be demonstrated if the scores of the measures of Knowledge Management Processes as well as Organizational Innovation were positively and significantly correlated with Organizational Performance.

As depicted in table 2, the analysis of the correlations among the measurement model constructs, conduct all correlation coefficients are significant ($p, 0.001$), which support the nomological validity. Hence, the results support the prediction that these constructs are positively related to one another (i.e. confirming predictive validity). Nevertheless, all these results must be considered under the sample size limitation (e.g. Deng and Dart, 1994; Aldas-Manzano et al., 2005).

Test of Hypotheses

H1: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities). To test this Hypothesis, it is possible to generate the following three Hypotheses to be examined:

H1-a: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Processes innovation.

H1-b: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Product innovation.

H1-c: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Innovation capabilities.

Table 3 presents the results of multiple-regression analysis for knowledge management processes dimensions (knowledge identification, knowledge acquisition & transferring, knowledge storage, knowledge sharing, and knowledge application) on the organizational innovation dimensions (i.e. processes innovation, product innovation, and innovation capabilities respectively). However, results indicate that all the five dimensions of knowledge management processes have a significant positive effect on the three dimensions of organizational innovation (i.e. processes innovation, product innovation, and innovation capabilities respectively). Therefore, the three Hypotheses set of the first Hypothesis (H1) (i.e. H1-a, H1-b and H1-c) are supported. This result shows that knowledge management processes will have a significant positive effect on organizational innovation.

H2: Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities) has a positive effect on Organizational Performance (Profitability, market share, sales growth, and customer satisfaction). To test this Hypothesis, it is possible to generate the following four Hypotheses to be examined:

H2-a: Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities) has a positive effect on the Organization Profitability.

H2-b: Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities) has a positive effect on the Organization market share.

H2-c: Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities) has a positive effect on the Organization sales growth.

H2-d: Organizational Innovation (Processes innovation, Product innovation, and Innovation capabilities) has a positive effect on the Organization customer satisfaction.

Table 3 The multiple-regression analysis of the effect for knowledge management processes on the organizational innovation dimensions (processes innovation, product innovation, and innovation capabilities)

Dependent variable	R	r ²	Calculated F	Source	DF	Sig*	β		Calculated t	Sig*
Process innovation	0.788	0.620	10.51	Regression	5	.00	Knowledge identification	0.338	3.287	0.002
				Residuals	85		Knowledge acquisition	0.296	3.231	0.001
							Knowledge storage	0.304	3.440	0.000
							Knowledge sharing	0.426	4.740	0.000
				Total	90		Knowledge application	0.049	0.12	0.000
Product innovation	0.832	.447	6.31	Regression	5	.00	Knowledge identification	0.256	6.862	0.001
				Residuals	85		Knowledge acquisition	0.200	1.019	0.002
							Knowledge storage	0.011	.066	0.000
							Knowledge sharing	0.299	1.311	0.000
				Total	90		Knowledge application	0.114	0.514	0.000
Capabilities innovation	.904	.818	14.45	Regression	5	.00	Knowledge identification	0.022	0.290	0.000
				Residuals	85		Knowledge acquisition	0.298	2.648	0.000
							Knowledge storage	0.232	2.421	0.020
							Knowledge sharing	0.551	5.126	0.000
				Total	90		Knowledge application	0.313	2.991	0.005

Table 4 presents the results of multiple-regression analysis for the organizational innovation dimensions (i.e. processes innovation, product innovation, and innovation capabilities) on the organizational performance dimensions (Profitability, market share, sales growth, and customer satisfaction). Likewise, result indicate that all the three dimensions of organizational

Table4: the multiple-regression analysis of the effect for organizational innovation dimensions (processes innovation, product innovation, and innovation capabilities) on the organizational performance dimensions (Profitability, market share, sales growth, and customer satisfaction).

Dependent variable	r	r ²	Calculated F	Source	DF	Sig*	β		Calculated t	Sig*
Profitability	.450	0.20	9.004	Regression	3	.004	Processes innovation	0.23	2.14	0.014
				Residuals	87		Product innovation	0.05	2.64	0.000
				Total	90		Capabilities innovation	0.26	1.37	0.018
Market share	.371	.138	6.687	Regression	3	.009	Processes innovation	.269	1.672	0.010
				Residuals	87		Product innovation	.074	.379	0.007
				Total	90		Capabilities innovation	.101	.514	0.000
Sales	.553	.306	6.164	Regression	3	.000	Processes innovation	.421	2.916	0.02
				Residuals	87		Product innovation	.096	.546	0.007
				Total	90		Capabilities innovation	.138	.781	0.000
Customer satisfaction	.629	.395	9.15	Regression	3	.000	Processes innovation	.436	3.236	.002
				Residuals	87		Product innovation	.076	.467	0.007
				Total	90		Capabilities innovation	.361	0.41	0.002

Innovation (processes innovation, product innovation, and innovation capabilities) have a significant positive effect on the four dimensions of organizational performance (i.e. (Profitability, market share, sales growth, and customer satisfaction respectively)).Therefore, the four Hypotheses set of the second Hypothesis (H2) (i.e. H2-a, H2-b, H2-c and H2-d) Are supported. This result shows that organizational innovation will have a significant positive effect on organizational performance.

H3: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organizational Performance (Profitability, market share, sales growth, and customer satisfaction).

To test this Hypothesis, it is possible to generate the following four Hypotheses to be examined:

H3-a: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organization Profitability.

H3-b: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organization market share.

H3-c: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organization sales growth.

H3-d: Knowledge Management Processes (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) has a positive effect on Organization customer satisfaction.

Table 5 The multiple-regression analysis of the effect for knowledge management processes on the organizational performance dimensions (Profitability, market share, sales growth, and customer satisfaction)

Dependent variable	r	r ²	Calculated F	Source	DF	Sig*	β		Calculated t	Sig*
Profitability	.512	.262	18.29	Regression	5	.01	Knowledge identification	0.138	2.54	0.001
				Knowledge acquisition	0.249		4.42	0.00		
				Residuals	85		Knowledge storage	0.24	2.32	0.002
				Total	90		Knowledge sharing	0.131	2.66	0.00
							Knowledge application	0.27	4.434	0.00
Market share	.491	.241	16.33	Regression	5	.00	Knowledge identification	0.240	4.76	0.00
				Knowledge acquisition	0.455		8.491	0.00		
				Residuals	85		Knowledge storage	0.27	4.412	.0.00
				Total	90		Knowledge sharing	0.34	2.32	0.002
							Knowledge application	0.26	2.44	0.00
Sales	0.692	0.478	5.895	Regression	5	.00	Knowledge identification	0.296	3.231	0.002
				Knowledge acquisition	0.105		0.668	0.001		
				Residuals	85		Knowledge storage	0.017	0.117	0.000
				Total	90		Knowledge sharing	0.134	0.965	0.000
							Knowledge application	0.249	1.763	0.001

Customer satisfaction	.662	.438	6.07 0	Regression	5	.01	Knowledge identification	0.181	2.727	0.009
				Residuals	85		Knowledge acquisition	0.338	3.287	0.002
							Knowledge storage	0.296	3.231	0.002
				Total	90		Knowledge sharing	0.282	2.827	0.007
							Knowledge application	0.371	2.020	0.050

Table 5 presents the results of multiple-regression analysis for the Knowledge Management Processes dimensions (Knowledge identification, Knowledge acquisition & transferring, Knowledge storage & retrieving, Knowledge sharing, and Knowledge application) on the organizational performance dimensions (Profitability, market share, sales growth, and customer satisfaction).

However, result indicate that all the five dimensions of knowledge management processes have a significant positive effect on the four dimensions of organizational performance(i.e. Profitability, market share, sales growth, and customer satisfaction respectively). Therefore, the four Hypotheses set of the third Hypothesis (H3) (i.e. H3-a, H3-b, H3-c, and H3-d)are supported. This result shows that knowledge management processes will have a significant positive effect on organizational performance.

H4: Organizational Innovation mediates the effect of Knowledge Management Processes on Organizational Performance.

To Test the mediating effects of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance, the study applied path analysis through AMOS18. Table 6 presents the results of mediating effects. The results of the path analysis show that the value of direct effect of Knowledge Management Processes on Organizational Innovation is 0.721; while the value of direct effect of Organizational Innovation on Organizational Performance is 0.622. However, both standardized coefficients are significant ($p < 0.01$). The mediating effect according to Baron and Kenny (1986) exists under the following conditions:

- 1) There's a significant effect of an independent variable (i.e. Knowledge Management Processes) on the mediator (i.e. Organizational Innovation).
- 2) The independent variable has a significant effect on the dependent variable (i.e. Organizational Performance).
- 3) After including the mediator, the previous significant relationship between the independent variable and the dependent variable is reduced.

Therefore, we found that all the mediating conditions set by Baron and Kenny (1986) are satisfied. Therefore, result indicates the mediating effect of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance. While the indirect effect of Knowledge Management Processes on Organizational Performance was $(0.721 \times 0.622 = 0.448)$ which is significant ($p < 0.01$) as shown in table 6.

Table (6) results of the analysis the mediating effect of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance.

	Chi ²	GFI	CFI	RMS EA	Direct Effect		Indire ct effect	Sig*
Knowledge management processes/ organizational performance with existence of Organizational innovation	9.192	0.94	0.97	0.031	Knowledge management processes/ organizational innovation	0.721	0.448 *	0.002
					Organizational innovation/ organizational performance	0.622		

GFI: Goodness of fit index

CFI: The comparative fit index

RMSEA: Root Mean Square Error of Approximation

However, the conceptual model were tested by a structural equation model using AMOS 18. As far as the measurement model is concerned, the data in this study exhibit a satisfactory level of fit (chi-square =9.192, GFI = 0.94, , CFI = 0.970, and RMSEA =0.031). According to Bagozzi and Yi (1988), the reported fit indices fulfill the respective benchmarks. Specifically, thereported values are greater than .9 for GFI and CFI and lower than .08 for RMSEA. However the chi-square value related to the size of the sample (e.g. Anderson and Gerbing, 1988; Hair et al., 1998; Bentler 2004; Bollen 1989; Hoyle & Panter 1995; Hu and Bentler 1999; Alrubaiee et al., 2012; Alrubaiee., 2013). Thus the model demonstrated an acceptable fit with the data. The result are shown in table 6. Overall, the empirical results supported our conceptual model.

Result Discussion and Conclusion

The study focused on the relationship between Knowledge Management Processes, Organizational Innovation and Organizational Performance. More specifically, the main objective of the study is to investigate the mediating effect of Organizational Innovation on the relationship between Knowledge Management Processes and Organizational Performance. Although , some scholars realized that organizational innovation have a positive relationship with Knowledge Management Processes and/ or Organizational Performance, there is still a lack of empirical evidence on its mediating effect, which this study investigate. Accordingly, our findings provide support for this relationship. In particular, we found that Knowledge Management Processes positively affect Organizational innovation. These results are consistent with previous empirical studies (e.g. Noruzy et al., 2013; Darroch, 2005; Marques et al., 2014; Tsai and Shih, 2004; Holm and Sharma, 2006; Akroush and Al-Mohammad, 2010; Hanvanich et al., 2003). However, this finding is in contrast with Alrubaiee et al. (2015) finding, which indicated appositve effect of marketing innovation on marketing knowledge of Jordanian telecommunications companies. However, study finding are also similar to those studies that show a positive effect of Knowledge Management Processes on Organizational Performance (Tubigi and Alshawi, ,2015; Al-Hakm and Hassan, 2012). What's more, Our findings confirm the result of previous empirical studies which, found a positive effect of Organizational Innovation on organizational performance (Marques et al., 2014; Han et al., 1998; Agarwal et al., 2003; Hult et al., 2004; Zheng et al., 2005; Farhangmehr et al., 2006; Keskin, 2006; Alrubaiee et al., 2013). What's new, our finding indicate the mediating effect of Organizational Innovation on the

relationship between Knowledge Management Processes and Organizational Performance. This result are somewhat consistent with the finding of Carmen and Jose,2008 study, which indicated the mediating role of innovation in the relation between market orientation and performance in cultural organizations . This evidences that the best way to account for the outcomes is by considering innovation as a mediating variable.

Managerial Implications

The implications of this study are two-fold; theoretical and managerial. First, as regards implications for theory, results indicate that Knowledge Management Processes does not operate in isolation from other sources of advantage and emphasize the need to examine mechanisms by which Knowledge Management Processes contributes to organizational performance. There is a positive relationship between Knowledge Management Processes, Organizational Innovation and Organizational Performance. Knowledge Management Processes affect positively direct both Organizational Innovation and Organizational Performance. Moreover, Knowledge Management Processes also affect positively indirect Organizational Performance through Organizational Innovation as mediator. Therefore, it is suggested that an organization that has high capabilities to manage its knowledge will use its resources more efficiently and will be more innovative leading to improve its performance.

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