

KNOWLEDGE SHARING IN JORDAN PHARMACEUTICAL INDUSTRIES

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Abstract

This paper describes a kind of research in the field of information systems, more specifically, knowledge sharing system. This paper seeks to explore; how knowledge sharing system in Jordan pharmaceutical industries helped in create new products. The researcher built and tests a model of the knowledge sharing techniques that support create new knowledge internal firms. In order to know the impact of these techniques within the Jordan pharmaceutical firms, in an attempt to know its effect on increasing continues sharing and learning internal the pharmaceutical firms. The results of the survey on 224 respondents in several pharmaceutical firms in Jordan revealed that Companies should focus on continued improvement of the techniques that they use for sharing knowledge. The researcher recommends that the employees must have the chance to apply what they have learnt through the training or double loop learning. Finally the firms should maintenance of current knowledge resources, because they are considered one of the ways to innovation.

Keywords: Knowledge sharing techniques, dialogue, double loop learning between, as simulation

Introduction

In today's highly competitive business environment, knowledge is widely recognized of its importance as a critical resource for competitive advantage of the firms (Jashapara,2011). Driving for success, firms need to rely on effective knowledge sharing techniques. Knowledge can be shared from repositories to people from teams to individuals, and between individuals (Awad, 2004). However, knowledge sharing process can not occur without the existence of systems and mechanisms that enable the process, it is enabled by a variety of technologies, including databases and collaboration tools allowing companies to

share and co-operate knowledge into the databank. In order to encourage the knowledge sharing the firms need to determine, the techniques are related. Some of these techniques are the reflections, dialogue, and double loop learning, assimilation (Hedlund, 1994, Harrison, 2002, Fernandez et al., 2004), these techniques would likely foster contact of human-to-human and, can make organization more creative, and initiate the role of innovation to provide a future firm's offerings (Majchrzak, Ann, 2004). Pharmaceutical industry in Jordan rapidly growth of the global industry presents unique opportunities as well as challenges. Although the companies are aware that the pharmaceutical industry plays a key role in future economic development and thus it has gained a lot of attentions and incentives, because there is still a little attention for studying the knowledge sharing within pharmaceutical industry in Jordan, this study is to give the importance to the techniques that support of knowledge sharing system, most of the previous researches attempted to issues have been done in the context of developed countries, not the developing country. Therefore, the objective of the study is to build and test a model of determinants the techniques of knowledge sharing within pharmaceutical industry in Jordan, specifically:

- To explore the knowledge transfer techniques are used in pharmaceutical firms?

The rest of the paper precedes as follows, first the literature review, second methodology and, research design, third discussion of findings, finally, the paper conclusion.

Literature Review

Definitions of knowledge sharing

Alkhsan (2004) defined knowledge transfer as a conveyance of knowledge from one place, person ownership, to another. When information shared, it is not a transfer such as when someone transfers a material good, the receiver must build this information in his or her own context of his or her personal knowledge, and through this process a new knowledge will be created. If this is taken into account, knowledge sharing systems help to create of new knowledge through exchange of knowledge (Wilkesmann et al., 2007). Others defined knowledge sharing process as "the process through which one unit (group, department, or division) is affected by the experience of another". They further point out the share of organizational knowledge, routine or best practices can be observed through changes in the knowledge as best practices (Awad, 2004). The actors carrying out the knowledge sharing process closely benchmark, the market trend, and best practices by setting up strong information or intelligence system, just as Japanese companies did to decades ago, and lots of firms in industrializing countries do nowadays (Nonaka et al., 1995). The innovation of a

company is improved not mainly via knowledge sharing processes, but via continuous learning (Li Gao, 2003).

Reflection

Hedlund (1994, p. 77) take care of the importance of reflection when making use of tacit knowledge and, articulated knowledge. Hedlund argued that reflection genuine knowledge creation. The time for reflection may be hard to come by, before being able to share knowledge (Fernandez et al., 2004). All team members have to come to some understanding of what has happened, and why (harryson, 2002).It involves looking to our experiences, connecting with our feelings, and attending to our theories in use, it entails to build new understandings to inform our actions in the situation that is unfolding (Smith, 2001).

Dialogue

Dialogue; is the interaction between two individuals where one individual seeks knowledge from the second individual. Continual dialogue among organizational members can spark both vision, and strategy for company, managing conversation is also crucial, as well as a good atmosphere for effective conversation. They were supposed to recognize critical question to identify a variety of trend, stretch minds by meeting different people and, read new signals that the future teams generated as a kind of collective intelligence through their an-going dialogue. The dialogues were sent over the net and simultaneously revised by a group of editors who were sitting in another location. The impact of this helped into an innovation (Nonaka et al., 2000).

Moreover, Nonaka's theory identifies four pattern of interaction between tacit and explicit knowledge that represent ways in which existing knowledge. It embraces continual dialogue between explicit and tacit knowledge, which drives the creation new ideas and concepts (Nonaka, 1995). While the quantity and, qualities of dialogue determine the effectiveness of knowledge sharing process(Moore and Birkinshaw, 1998).

Double loop learning

Learning is a process of improving performance by experiencing an activity or observing someone else experience that activity (Fernandez et al., 2004) Argyris, therefore, makes the important distinction between two levels of learning. The first, single-loop learning can be thought of as part of the process one goes through when attempting to function successfully in the real world. As people encounter discrete conditions, or events, during the course of normal experience, internally maintained rules are invoked in response rules, in this context, means knowledge sharing processes. Second level are double-loop learning, it can be defined of as an alternative response to question governing variables, to subject them to

critical scrutiny. Such learning may then lead to an alteration in the governing variables and, thus, a shift in the way in which strategies, and consequences are framed (McElroy, 1999).

Double –loop learning therefore, is the second order learning through which the members of an organization may discover and modify the learning system that conditions prevailing patterns of organization inquiry (Harryson, 2002).

Double-loop learning occurs when error is detected and corrected in the ways that involve the modification of an organization’s underlying norms, policies, and objectives. This process can be represented quite easily by a simple amendment of our initial representation of theory-in-use.

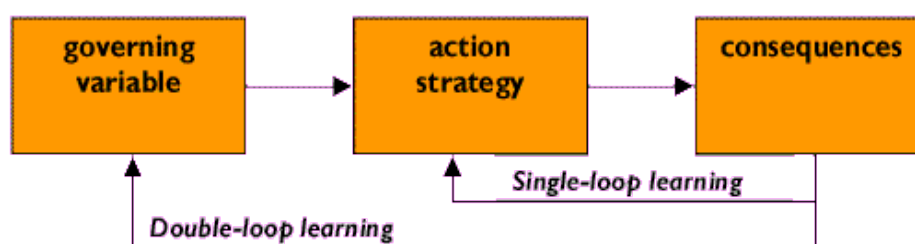


Figure (1) Double Loop Learning (Adapted from smith, 2001).

Assimilation

Assimilation refers to a process by which something becomes more and more similar to something else until it becomes very absorbed, and it loses its own identity. In psychology, the term assimilation is used in two contexts. First, in the context of cultural assimilation, which someone from one culture assimilates into another so that they can no longer be told apart from the new culture. Assimilation is also a process described by the famous psychologist Jean Piaget who identified two cognitive processes (assimilation, and accommodation) at work in the normal learning process of children. When child becomes aware of something new, that it has never seen before it has two choices, for making sense out of that thing, it can interpret that thing in terms of what it already knows (assimilation), or it can learn a new way of making sense of that thing (accommodation). Taken together, these two processes make up adaptation, or the child's ability to adapt to his or her environment. (Jashapara, 2011)

Knowledge sharing

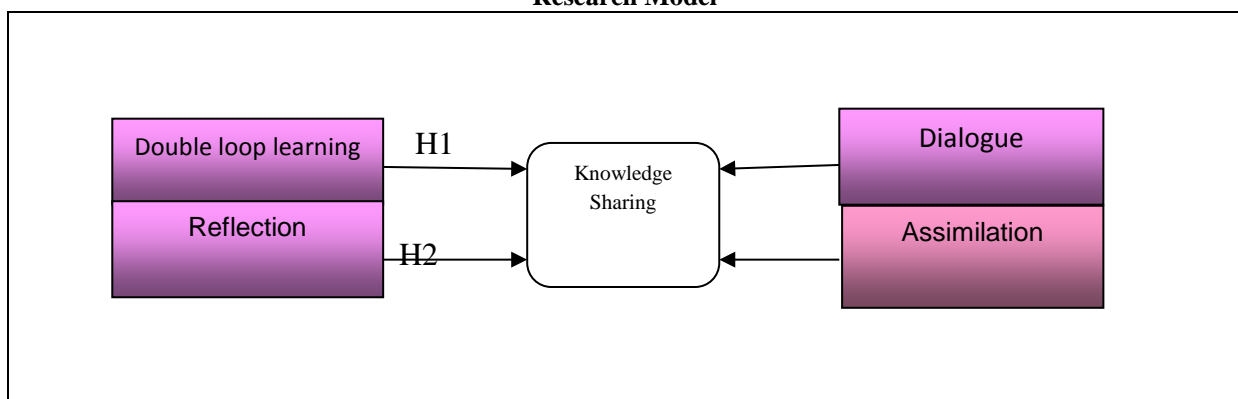
Knowledge can be defined as that core asset that when properly employed results in new or improved products or services. These products and services help create organizational wealth, enabling the organization to gain or maintain a competitive advantage, that is, by employing strategies of differentiation, cost or niche (montano, 2005). Competitive advantage can be defined as profit above the industry average for a sustained period. It

usually has as its foundation a core competency, that “thing” that the organization does better than its competitors do. In order to be considered core, a competency must meet the following criteria. It must provide customer benefits, it must be extendable and, it must difficult to imitate (Hellstrom et al., 2000). The average age of organizations worldwide is less than 20 years, so their survival depends on their ability to engage in activities that can help ensure a competitive advantage. In today’s rapidly changing global economy, innovation is the number one creator of organizational wealth (Bergeron, 2003). Innovation is defined as the creation or discovery of a novel products or services. While a necessary adjunct to innovation, is not sufficient to ensure competitive advantage. The organization might be able to innovate but not properly implement the result or it might not choose the right product for the market. Innovation is essential to competitive advantage and the chances of survival” (Daft, 2001). Innovation requires that the organization engage in continuous learning. To do so, it must acquire the knowledge needed to close what Jashapara (2011) describes as the strategic gap, determining the knowledge needed to close this gap requires; a process, this process includes the following stages: identification, elicitation, dissemination, utilization, and sharing knowledge needed to enhance competitive advantage, because sharing knowledge is essential for competitive intelligence (Montano, 2005).

Research model

The study returned to the techniques of knowledge sharing and, focusing in the techniques of knowledge sharing within the Jordanian pharmaceutical firms, as a different geographical and organizational dispersion, for reaching height level of sharing knowledge.

Research Model



Resource: Adapted by researcher

Hypotheses

The researcher has set six major hypotheses

H_{a1}: There is a significant effect between reflection and, knowledge sharing in Jordan pharmaceutical industry.

H_{a2}: There is a significant effect between dialogue and knowledge sharing, in Jordan pharmaceutical industry.

H_{a3}: There is a significant effect between double loop learning, and knowledge sharing in Jordan pharmaceutical industry

H_{a4}: There is a significant effect between assimilation and knowledge sharing, in Jordan pharmaceutical industry..

Methodology and Research Design

The study will be conducted on large pharmaceutical firms in Jordan. There are about 17 industrial companies in Jordan, however, only five companies dominate the local market, and account for more than 90% of the country's total production. These are, Hikma, ABM, DAD, JPM, and UPM. Each has more than (55- 65) employees in the product research development, and marketing departments. A stratified random sampling method will be used, as it is the most convenient, and the most applicable in the Jordan context. The unit of the analysis in this study is an employee working in the marketing department, research and developments at the pharmaceutical companies in Jordan.

300 Questionnaires were sent to 300 populations of fifty companies. 245 were returned, 21 Questionnaires were ignored because it has missed. .

Data Analysis and Discussions

The analysis was conducted in two stages: instrument validation and hypothesis testing. In the instrument validation stage, Cronbach's alpha was used as a measure of reliability because it provides a lower bound for the reliability of a scale and is the most widely used measure. All scales had $\alpha > .8$, thus providing an adequate level of reliability for predictor tests and hypothesized measures of a construct (Table 1). In addition, discriminated validity was evaluated for all construct pairs by examining the observed correlation matrix of the constructs. All construct pairs met the discriminated validity test at $p < 0.05$. In the stage of hypothesis testing, regression techniques were mainly employed in order to examine the relationship between independent variables and knowledge transfer separately. The factor scores of each latent factor were used predictor variables in regression analysis with the dependent factor.

Results and Data Analysis

Internal reliability

The internal consistency measures (Cronbach's Alpha) are obtained in order to assess the reliability of the measurement instruments. The following table shows the Cronbach's Alpha value for each scale.

Table (1)

No.	Variables	Cronbach's alpha
1	reflection	.836
2	Dialogue	.743
3	Double loop learning	.850
4	Assimilation	.813
5	knowledge sharing	.864

It is clear that Cronbach alpha is valid, acceptable statistically and managerially because (α) values are greater than accepted percent 0.60.

Factor analysis, the Bartlett's test

For more accurate judgment, further analyses are conducted. To examine whether the data set is appropriate for a factor analysis, the Bartlett's Test of-chi-square is utilized. As shown in Table (2).

Table (2) Bartlett's test

Variables	Burtlet test –chi-square	KMO	Variances
Reflection	673.997**	.781	58.911
Dialogue	203.683**	.782	49.449
Double loop learning	519.598**	.829	52.480
Assimilation	519.598**	0.850	0.743
Knowledge sharing	811.241**	.876	62.030

** Significant at 0.01 level Table number (2) Bartlett's Test shows that there is high homogenous responses of statistical sample at statistical function ($\alpha=0.01$). This supports statistical value (p-value) which is (0.000), Reflection calculated chi-square is (673,997). This value is higher than tabulated chi-square (χ^2_{α}) which is (57,291).), dialogue calculated chi-square is (203.683), double loop learning calculated chi-square is (519.598), for Innovation chi-square is (604,704) it is higher than chi-square tabulation value (α No) which is (38,932).). The KMO result is very high, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, and Bartlett's Test of Sphericity are utilised ,the KMO generally measure should be greater than 0.5). As shown in Table 2, the KMO statistic shows 0.860 at a significant level of 0.001 the KMO generally measure should be greater than 0.5 (De Vaus, 1991; Field, 2000). In comparison with these also highly significant (chi-square = 811,241with 66 degree of freedom, at $p < 0.001$). Next, the eigen value, and the screen plot are investigated to determine the number of factors, as shown in (table 2). A Dialogue variance result shows that there is one main compound whose Eigan value is (3.499) this

compound explains what equals to (49.449). Assimilation chi-square is (519,598) which is higher than chi-square tabulation value (α №) which is (30,578) at function level. Finally knowledge sharing shows that there are two main compounds whose values are (4.371) and (1.212) which explain (62,030%) of variance to this variable.

Summarizes all the results of the study

Table (3) summary of regressions analysis

Independent Variable	Dependent Variable	Sig Item	Coefficients -T
Knowledge sharing	Reflection	0.000	0.433
Knowledge sharing	Dialogue	0.000	0.776
Knowledge sharing	Double loop learning	0.000	0.941
Knowledge sharing	Assimilation	0.000	0.917

We can see significant effect at function level ($\alpha \leq 0.01$) to the independent variable in the dependent variable Assimilation have the biggest effect. Reflection and, Dialogue have the lowest effect.

Conclusion

The results shows, that there is significant effect of the independent variables (reflection –dialogue- double loop learning, Assimilation) on the dependent variable (knowledge sharing). It's clear that there's significant effect of the independent variable ((reflection) on the dependent variable knowledge sharing, but it is clear that it still naives abacus of the access to computer-mediated possibilities of knowledge transfer still has limitation. The results lead to recommend companies to leeway for interaction between employees. The firms must care about computer-mediated possibilities of knowledge sharing. The researcher recommends that the firms should be intrinsically motivated individual to share there knowledge, through a strong team culture. Companies should focus on the tools and techniques that they use for the creation of new knowledge, because they are very essential reasons for their success. In the other hand double loop learning has the strongest relationship with knowledge sharing, in Jordan companies; employees share a lot of personal experiences with others. This can be justified, because the employees have short and middle experience in their organizations, where 36.0% are among (1-2 years), 30.33% are among (5-10 years), and 24.67% are among (more than 10 years),also the employees in Jordan concentrate on theoretical learning than they do on experimental, and practicing one. The

results lead to recommend companies to make their way of training and learning more practical. Cahill Libra said that: “*A little knowledge that acts is worth more than much knowledge that is idle*” (Bergeron, 2003).

In the other hand Double loop learning has strong relationship with knowledge sharing, in spite of the idea that employees are considered to be crucial in the loop learning and this will support creating new knowledge. The researcher recommends that the employees must have the chance to apply what they have learnt. Finally there is a significant effect between the assimilation, and knowledge sharing, which provides the company with sustainable competitive advantage, through the continued improvement of knowledge techniques, and maintenance of current knowledge resources, because they are considered one of the ways to innovation.

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