

PREDICTION OF KNOWLEDGE ACQUISITION, KNOWLEDGE SHARING AND KNOWLEDGE UTILIZATION FROM LOCUS OF CONTROL: AN EMPIRICAL INVESTIGATION

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ABSTRACT

This study investigated the relationship between locus of control (LOC) and knowledge management (KM), i.e. knowledge acquisition, knowledge sharing and knowledge utilization. Participants were 155 individuals working in medium sized Lebanese organizations. Using hypothesis test and regression analysis, results indicated that internal LOC was positively related to knowledge acquisition, knowledge sharing and knowledge utilization. Also, a positive and significant correlation exists between external LOC and knowledge utilization whereas no relationship was found between external LOC and knowledge acquisition and sharing.

1. INTRODUCTION

Since the start of family business, owners have transferred their profit-making shrewdness to their children, artisans have conscientiously taught their skills to beginners, and employees have transferred their technical skills and ideas between each other. Therefore, there is actually nothing new about knowledge management (KM) (Hansen *et al.*, 1999). However, nowadays, fast environmental changes and rapid technological progress, KM has become significantly important. Researchers have recognized the fact that efficient KM is a key success factor and a driving force for achieving a sustainable competitive advantage (Nonaka, 1991; Quinn, 1992; Klein & Prusak, 1994; Winslow & Bramer, 1994; Bohn, 1994; Ulrich, 1998; Drucker, 2001; Bryant, 2005). In addition, other scholars contended that the traditional production factors (land, labor, and capital) have now diminishing returns whereas knowledge which has become the primary asset for both organizations and the economy (Drucker, 1994), is subject to increasing returns (Grant, 1995).

The number of studies on KM has more than doubled in the past decade as reported by Despres and Chauvel (1999). These studies have focused on different aspects of KM. Such as KM and organizational commitment (Putti *et al.*, 1990), knowledge transfer and individual characteristics (Vera-Muñoz, Ho & Chow, 2006), KM and experience (Fargher *et al.*, 2005), KM and ability and motivation (Solomon & Shields, 1995) and KM and culture (Taylor *et al.*, 2001). According to Gupta and Govindarajan, (2000, p. 478), “there are many possible determinants of motivational dispositions to engage in inflows or outflows e.g., personal characteristics of subsidiary managers such as age or locus of control and their organizational commitment”. Despite this

considerable abundance in KM literature, no existing studies have investigated thoroughly the relation between KM and locus of control (LOC).

This research studies the influence of internal and external LOC as a personality trait on knowledge acquisition, sharing and utilization. This paper will assist human resource managers when selecting employees for certain positions which require KM. Moreover, it observes the effect of LOC on KM in organizations.

2. LITERATURE REVIEW

2.1 Knowledge Management

Knowledge is information, ideas and expertise with a purpose that have been put to productive use (Bartol & Srivastava, 2002). It is described as the consciousness to understand ideas, events, information acquired through experience and learning, and the collection of interrelated information which has less significant value when separated. However, it is the individual's justified true belief which may improve the potential, efficiency and capacity of individuals, groups, communities and organizations (Nonaka, 1994).

There are two forms of organizational knowledge: explicit or tacit (Nonaka, 1991; Nonaka & Takeuchi, 1995). Explicit knowledge is knowledge that may be codified, documented or stored in accessible information technology systems such as corporate intranet web site, databases, shared directories on file servers or any other forms of the organization's intellectual property portfolio. While tacit/implicit knowledge resides in the individual's mind which makes it harder to express in writing. It includes operational know-how, technical expertise, insights about an industry, and business decision (Hansen *et al.*, 1999). The main challenge today is how to manage knowledge in a way to transform tacit into explicit.

During the past decade, organizational knowledge activities have increased drastically (Davenport & Klahr, 1998) and knowledge became the primary asset which generates organizational wealth (Cole, 1998) and whose protection has turned to be critical for the generation and preservation of competitive advantage (Porter-Liebeskind, 1996). According to Scarborough & Swan (1999), KM is a procedure of creating, acquiring, capturing, sharing and utilizing knowledge in order to develop organizational performance and learning. It encompasses the creation and acquisition, modification, utilization, storing and protection, transfer and sharing, translation and repurposing, and access and disposal of knowledge. However, it is not only about the knowledge flow between people and information technology systems and vice versa, but it is also about how knowledge is conveyed from one individual to another.

It is essential to conserve and share knowledge in the organization so that when an employee leaves, the existing employees will have sufficient information about how to perform their job (Probst *et al.*, 1999 and Shaw *et al.*, 2003). However, a common problem of KM is knowledge retention. When there is a lack of knowledge sharing, difficulties exists in obtaining adequate knowledge after the employee leaves the organization.

According to Tan (2000), KM is the practice of actively and analytically controlling knowledge and information within an organization. KM possess strategies which intensively promote knowledge sharing by linking people together and making information easily accessible

so that they learn from documented experiences (i.e. explicit knowledge). When knowledge is retrieved from those who hold it and shared with those who need it, organizational effectiveness is significantly improved, as Mecklenberg *et al.*, (1999 p.162) affirmed that “knowledge management allows companies to capture, apply and generate value from their employees’ creativity and expertise”.

Two attitudes toward KM have been identified (Hansen, 1999): codification and personalization. The first is a document driven strategy where the knowledge which is thoroughly encoded easily accessible information technology systems, becomes independent of its original owner, and easily accessible and used by others. Conversely, the latter is a collaboration strategy between at least two individuals to share tacit knowledge, closely tied in this case to its owner.

From the above, KM within the organization leads to a sustainable competitive advantage (Riege, 2005; Nonaka & Takeuchi, 1995). On the other hand, personality traits explain how individuals behave in different situations (Costa & McCrae, 1992). According to Lin (2007), knowledge sharing depends on the person’s values, beliefs, motivation, experience and personal traits. Then, the researchers expect personality traits (e.g. LOC) to correlate with knowledge acquisition, knowledge sharing and knowledge utilization.

2.2 Locus of Control

The psychological concept of LOC was first introduced in 1954 by Julian Rotter (Rotter, 1954). It is defined as the people’s perception of the source of control over their destiny or actions (Gershaw, 1989). It is the extent to which individuals judge themselves or believe that an external force, such as luck, is related to the influence on particular events in their life (Moorhead and Griffin, 2004; Firth *et al.*, 2004). Individuals, who consider that their own capacities and behaviors can determine their rewards, are referred to as internals, while externals assume that they obtain rewards outside of their control (Rotter, 1966).

Thus, internals consider that they have the capability to influence the environment around them and that they can alter the outcome of events that influence them through their behavior, attitudes, ability, personality and effort. On the other hand, externals consider that the outcome of the events is a function of uncontrollable or incomprehensible forces such as fate, luck, chance and stronger people or powerful institutions (Phares, 1962).

This concept has been first applied to the field of organizational behavior by Spector (1982). Further research has related it to individual’s job satisfaction, job performance and job stress (Chen & Silverthorne, 2008; Martin *et al.*, 2005), motivation (Chen & Silverthorne, 2008) and commitment (Judge *et al.*, 2000). In addition, it has been presented as a moderating factor between incentives and motivation, satisfaction and turnover. Also, many scholars proved that high internal LOC scores are good predictors of occupational success (McShane & Von Glinow, 2008).

Previous researches show that individuals with high internal LOC are more likely to experience higher levels of job satisfaction and performance and lower levels of job stress (Chen and Silverthorne, 2008). According to Phares (1962), people with internal LOC prefer to have power over their own environment, learn faster and perform better in tasks that require expertise and skills. They do not value outside support or help, and prefer to count on themselves. Their capability will lead to high self-confidence. However, individuals who think that the rewards they receive are due

to external factors rather than internal factors are more likely to be less productive and act more passively. Externals tend to adapt to the group's influences and believe that success is achieved with the help of others.

Rahim (1996) concluded that internals can cope with stress more easily and effectively than externals. According to Kalbers and Fogarty (2005), individuals with an internal LOC are less likely to experience a high level of stress but those with an external LOC are more likely to be vulnerable to stress and perceive certain events as stressful. Moreover, external LOC has a significant negative influence on job stress and tends to reduce personal accomplishments and job performance.

Internals are more likely to have higher levels of job performance and satisfaction (Martin *et al.*, 2005). It has long been assumed that higher employee satisfaction leads to an increase in employee performance and productivity (Lucas, 1999). However, while some researchers found that higher job satisfaction may lead to higher job performance others have not (Nerkar *et al.*, 1996). Jamal (1984) found that as job stress increased, the level of job performance decreased. He also found that job stress was significantly related to job satisfaction (Jamal and Baba, 2000).

Internals, tend to ask for more information about the tasks they have to perform in order to increase performance (Lefcourt, 1982). According to Gershaw (1989), internals can better evaluate, learn and obtain larger benefits from social support. They search and apply new knowledge that is helpful for dealing with difficulties and for control. Since internals are concerned with information and knowledge, the researchers predict that:

H1: Internal LOC will be positively related to Knowledge Acquisition.

H2: Internal LOC will be positively related to Knowledge Sharing.

H3: Internal LOC will be positively related to Knowledge Utilization.

Externals approach the task with less enthusiasm (Lefcourt, 1982) and are concerned with social demands. They merge easily with a group for support (Phares, 1962). Thus we predict that:

H4: External LOC will be negatively related Knowledge Acquisition.

H5: External LOC will be negatively related Knowledge Sharing.

H6: External LOC will be negatively related Knowledge Utilization.

3. METHODOLOGY:

The research aim was to determine the effect of internal and external LOC (the independent variables) on knowledge acquisition, knowledge sharing, and knowledge utilization (the dependent variables). For that purpose, the researchers surveyed employees working in medium size organization operating in Lebanon. Medium size enterprises are defined in this study according to the number of employees ($100 < \text{employees} < 500$) relative to the country size, where the majority of businesses are either small or medium.

The questionnaire used for this research was of three main parts: the first part collected demographic data and asked about age, gender, level of education, promotion and position. The second part included the Work Locus of Control Scale (WLCS) developed by Spector (1998). It is designed to measure LOC orientation in the work place, i.e. internal or external. This scale showed high reliability and validity (Furnham and Steele, 1993). This scale consisted of 16 questions, half

related to internal LOC, and the other half to external LOC. This scale has a minimum score of 16 and a maximum score of 96. The lower score represents internal LOC and the higher score represents external LOC. In the third part KM components was measured using OECD (2003) scale. The researchers used 15 items with 5 questions related to knowledge acquisition, 5 related to knowledge sharing and 5 to knowledge utilization. The questionnaire were measured on a five point Likert scale that ranged from 1=strongly disagree to 5=strongly agree.

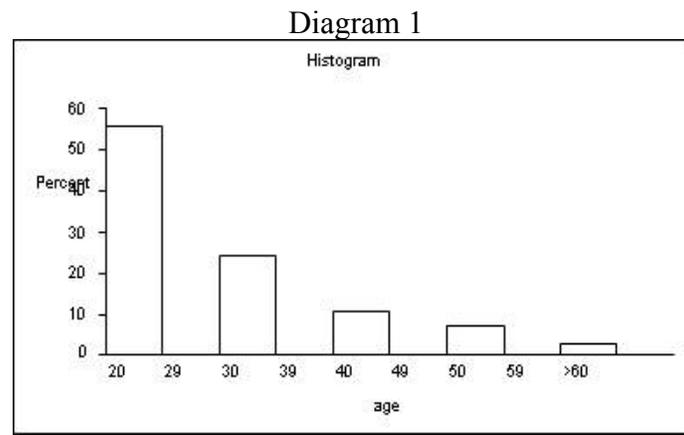
To test our hypotheses, a survey was carried out between October and December 2008. 200 questionnaires were distributed across six reputable companies in Lebanon with a letter indicating the purpose of the survey. The overall response rate was 77.5 per cent or 155 employees. The researchers stimulated participants to answer all the questions in the survey, assuring them absolute anonymity.

4. RESULTS:

4.1 Demographic Analysis

The purpose of this research was to investigate the relationship between LOC and KM (KA, KS and KU) and whether it enhances or impedes KM. The major demographic results were as follows: 83.87% of the respondents were internals with a mean of 55.84 and standard deviation of 4.87. The remaining 16.13% were externals with a mean of 44.44 and a standard deviation of 2.66.

55.5 % of the respondents were between 20-29 years old (see Diagram 1), with 51% females and 49% males. 58% held BA/BS degrees, 40% held Masters Degree, and the remaining 2% Doctorate. 62.6% (97 out of 155) were promoted, 42 out of 97 were between 20-29 years old, while the remaining was not promoted.



The demographic variables did not show any significant relationship to neither KM facets (knowledge acquisition, knowledge sharing and knowledge utilization), nor personality traits (internal LOC/external LOC).

4.2 Discriminate Analysis for the variables: internal/external LOC

Using SPSS, a discriminate function analysis was performed to predict group membership based on a linear combination of the interval variables.

		LOC	Predicted Group Membership		
			external	Internal	Total
Original	Count	external	15	10	25
		internal	34	96	130
	%	external	60	40	100
		internal	26.2	73.8	100

a.71.6% of original grouped cases correctly classified.

The above table (Table 1) shows that 15 individuals out of 25 were external LOC and 96 individuals out of 130 were internals. Therefore, the model correctly predicts our results, i.e. 71.6% of original grouped cases are correctly classified.

4.3 Hypothesis test

The hypothesis test (Means vs. Hypothesized value) was used to examine the association between LOC and KM variables (i.e. knowledge acquisition, knowledge sharing and knowledge utilization). The null hypotheses for each dependent variable (KA, KS and KU) are stated below:

- H1-0: Internal LOC and knowledge acquisition are not related.*
- H2-0: Internal LOC and knowledge sharing are not related.*
- H3-0: Internal LOC and knowledge utilization are not related.*
- H4-0: external LOC and knowledge acquisition are not related.*
- H5-0: external LOC and knowledge sharing are not related.*
- H6-0: external LOC and knowledge utilization are not related.*

Where Mean KA is the mean of knowledge acquisition, KS is the mean of knowledge sharing and KU is the mean of knowledge utilization.

The results from null hypotheses are stated in Table 2, 3, 4 and 5.

3	hypothesized value
3.6508	mean KA
0.5531	std. dev.
0.0485	std. error
130	N
13.41	Z
0	p-value (one-tailed, upper)

The result of the hypothesis test H1-0 is presented in Table 2. The computer output produced a Z-value of 13.41 and a corresponding P-value of 0.0000. Therefore, the test is highly significant. Thus, H1-0 is rejected.

3	hypothesized value
3.3092	mean KS
0.5405	std. dev.
0.0474	std. error
130	N
6.52	Z

The result of the hypothesis H2-0 test is presented in Table 3. The computer output produced a Z-value of 6.52 and a corresponding P-value of 0.000. Therefore, the test is highly significant. Thus, H2-0 is rejected.

3	hypothesized value
3.8262	mean KU
0.6534	std. dev.
0.0573	std. error
130	N
14.42	Z
0	p-value (one-tailed, upper)

The result of the hypothesis H3-0 is presented in Table 4. The computer output produced a Z-value of 14.42 and a corresponding P-value of 0.0000. Therefore, the test is highly significant. Thus, H3-0 is rejected.

No relationship has been found between External LOC and Knowledge Acquisition and Knowledge Sharing, thus H4-0 and H5-0 are accepted.

3	hypothesized value
3.528	mean KU
0.7346	std. dev.
0.1469	std. error
25	N
3.59	Z
0.0002	p-value (one-tailed, upper)

The result of the hypothesis test H6-0 is presented in Table 5. The computer output produced a Z-value of 3.59 and a corresponding P-value of 0.0002. Therefore, the test is highly significant. Thus, H6-0 is rejected.

From the above hypothesis tables (Table 2, 3, 4 and 5), results indicate that the null hypothesis H4-0 and H5-0 are accepted, while the null hypothesis H1-0, H2-0, H3-0 and H6-0 are rejected. Then more analysis of H1, H2, H3 and H6 among LOC is required.

For further analysis the researchers conducted a regression analysis with knowledge acquisition, knowledge sharing and knowledge utilization being the dependent variables and LOC being the independent variable. Hypothesis 1, 2, 3 and 6 were further tested for statistical significance.

4.4 Regression analysis

Regression results for internal LOC with Knowledge Acquisition

The analysis of these findings generated the following linear regression equation:

$$KA = -2.793 + 0.123 \text{ internal LOC}$$

0.000 sig

The results of the ANOVA showed an F-value of 33.286 and a significance of 0.000 at 0.05 significance level. Thus, the results support Hypothesis 1, i.e. knowledge acquisition is affected positively by internal LOC.

Regression results for internal LOC with Knowledge Sharing

The analysis of these findings generated the following linear regression equation:

$$KS = -2.793 + 0.136 \text{ internal LOC}$$

0.000

The results of ANOVA showed an F-value of 68.632 and a significance of 0.000 at 0.05 significance level. The results support Hypothesis 2, i.e. knowledge sharing is affected positively by internal LOC.

Regression results for internal LOC with Knowledge Utilization

The analysis of these findings generated the following linear regression equation:

$$KU = -1.785 + 0.120 \text{ internal LOC}$$

0.000

The results of ANOVA showed an F-value of 29.5 and a significance of 0.000 at 0.05 significance level. The results support Hypothesis 3, i.e. knowledge utilization is affected positively by internal LOC.

Regression results for external LOC with knowledge Utilization

The analysis of these findings generated the following linear regression equation

$$KU = -16.08 + 0.393 \text{ external LOC}$$

0.037

The results of ANOVA showed an F-value of 4.904 and a significance of 0.037 at 0.05 significance level. The results did not support Hypothesis 6 since knowledge utilization is affected positively by external LOC.

5. DISCUSSION:

The researchers investigated the relationship between the internal/external LOC with the three variables of KM (knowledge acquisition, knowledge sharing and knowledge utilization). To the researchers' knowledge, this is the first study that examines the above mentioned relationship. The results from current study demonstrated overall strong empirical evidence that: (a) a relationship exists between LOC and KM; (b) different relationships existed between internal and external LOC and the different aspects of KM.

The results showed that internal LOC is positively related to knowledge acquisition because internals like to acquire knowledge in order to develop their skills and enrich their knowledge. These individuals have a strong desire to learn, adopt new ideas and receive empowerment from managers (Lefcourt, 1982; Gershaw, 1989).

Internal LOC is highly linked to knowledge sharing. The higher the internal LOC the higher the individual contribution to knowledge sharing is. Individuals with high internal LOC have intrinsic interest and desire and are self-motivated people who like to share their knowledge with other employees in order to broaden their knowledge.

Although the results of the study demonstrated that both internals and externals were positively associated with knowledge utilization, their level of knowledge utilization varies from one another. In fact, externals are likely to rely more on automatic decision aids than internals because they prefer applying what others have come up with rather than making the effort themselves (Kaplan et al, 2001). They also tend to behave passively since they prefer delegating decision-making and problem-solving processes (Merton, 1946). However, individuals with high internal LOC prefer to take decisions themselves since they have more control of their work environment (Phares, 1962). This is in agreement with Hyatt and Prawitt (2001) that externals outperform internals in structured firm (Bamber and Snowball, 1988). Since structured firms have a stronger codification strategy and therefore stored knowledge is accessed and used more easily when making decisions. An interesting finding in this study is that having internal LOC positively correlated with the three variables of KM (knowledge acquisition, knowledge sharing and knowledge utilization) i.e., the higher the level of internal LOC the more the knowledge acquisition, sharing and utilization in the organizations.

6. CONCLUSION

This research extends the Organizational Behavior and KM literature and empirically tests the relationship between two personality traits, internal LOC and external LOC, with knowledge acquisition, knowledge sharing and knowledge utilization. The analysis showed how the personality traits had significant impact on knowledge acquisition, knowledge sharing and knowledge utilization. Our results cannot be generalized due to the small sample size, we recommend that further research should be carried on different size organizations, (small/large), different countries and sectors, where organizations value and support KM, to ensure its survival and success.

7. MANAGERIAL IMPLICATION

The researchers recommend that human resource managers should focus on personality traits of the candidate as a predictor to knowledge acquisition, knowledge sharing and knowledge utilization. Human resource managers would also focus on personality traits that are unlikely, in order not to select these candidates.

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