

THE EFFECT OF KNOWLEDGE MANAGEMENT AND ORGANISATIONAL LEARNING ON INDIVIDUAL COMPETENCIES

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Abstract

Knowledge management (KM) is known for its positive impact on the strategy of organisations, but little is known and understood about the significance of competency and learning and its important effects on knowledge management in public and private organisations in different sectors of the economy in Kuwait. The problem is that many organisations deal with KM or new information or emerging information as a challenge of KM itself rather than a way of incorporating new knowledge into the organisation through the development of individual competencies, and hence developing both KM and individual competency. Based on interview data from Kuwaiti organisations, this paper argues that it is better to implement KM and maximize organizational learning in order to create more competent individuals based on the spiral of knowledge creation model or the theory of knowledge creation. The significant contribution this paper makes is that individual competencies have a reciprocal relationship with KM; the determining factors of individual competencies training, education, personal characteristics and culture affect KM success and are themselves affected by KM strategies. Some implications for managing organisational knowledge, organisational learning and development of individual competency are considered.

Keywords: Knowledge Management, Competency, Learning.

1 INTRODUCTION

Many authors have described the organisational system as processes or problem solving. In fact organisations tend to process information through problem-solving in terms of what the organisation will gain, and do not consider the cause of it. However, it is really the efficient management and the use of information, knowledge and decisions in an uncertain working environment that counts. KM and competency have been honed as concepts in response to the perennial problems that frequently occur within a range of different employment contexts.

KM is a combination of data, information, experience, context, interpretation and reflection, and provides a more focused and coherent solution to an organization. Both the individual and their organisation should be considered within the scope of KM. Hatch and Dyer (2004) discussed that KM is a source for the organization to have a sustainable competitive advantage. Also, Brewer and Brewer (2010) described the popularity of KM in both business and education. This paper will start by defining KM in the context of the ontological and epistemological dimension. The distinction between

data, information and KM will be made, as many of these terms can be confusing and a greater emphasis will be placed on the syntactic and semantic perspectives of information and KM.

Both individuals and the organisation share a combination of tacit knowledge and explicit knowledge which informs their operation. Building upon this, a model will be presented in this paper; it will illustrate the four elements of the spiral of knowledge, as created by Nonaka and Takeuchi (1995). This model provides an explanation of the process of knowledge creation within an organisation. The importance of competency will be presented and the discussion will reveal the link between competency and learning. Also, a demonstration of how competency is shared between an individual and an organisation will be presented. The interaction between KM and learning in terms of business processing will be discussed in the end.

Thus the study investigated the following research question: How do individuals interpret and enact KM strategies in Kuwaiti public and private organisations through their individual competencies? A subsidiary question addressed how individual competencies affect KM implementation. This paper begins with a review of the literature on KM and then discusses the effect of learning on individual's competencies, and the link between KM and learning and its effect on individual's competencies. The methodology used in this paper is the qualitative method; to investigate the effect of KM and learning on competency in context of Kuwait. The paper discusses the effect of KM to develop individual learning, and finally provides suggestive solutions using KM.

To investigate the research questions a series of interviews were conducted with 41 interviewees from different Kuwaiti public and private organizations over a period of one and half month. The analysis and interpretation of interview data was done using Nonaka and Takeuchi's model of the spiral of knowledge creation, which also forms the basis for the suggested practice improvements to address the problem of organizations dealing with knowledge and facilitating individuals' learning. Based on the findings of these interviews, what hampers individuals from participating in knowledge creation and development will be considered. Finally, suggestions will be put forward based on the interview findings and the Kuwaiti context.

2 METHODOLOGY

The problem that this paper addresses is that there are many organizations, weather private or governmental that deal with emerging knowledge as a challenge rather than as an opportunity to develop their organization and gain competitive edge. How do individuals interpret and enact KM strategies in public and private organisations through individual competencies?

To research this problem a qualitative methodology was used. Qualitative interviews were conducted in Kuwaiti public and private organisations with 41 individuals to assess KM and individual competency at varying levels of operational and strategic managerial responsibilities. Since KM is used in different kinds of organizations, the interviewees were from both sectors, private and governmental. Also, since KM should be developed and accepted by the upper management as well as all the rest of the organizational employees, the interviewees were chosen from different levels in the organization. In addition, the chosen organizations serve different sectors in Kuwait such as education, medical, military, oil. The purpose of such a variety of different interviewees is to test KM in different organizational settings. This will improve the generalisation power of the suggested proposal on how to develop the organization using KM methods.

Semi structured interview were developed and NVIVO was used to analyse the interview data. The semi-structured interview method was used because it enables the capture and understanding of 'meanings' that people attach to their actions and understandings of the world around them. The structured questions were based on the extensive literature review reported above, which provided the main theoretical constructs for data collection, such as training, education, personal characteristics and culture. The follow-up questions arose during the interviewees responses to the structured questions. All the data was captured on digital recording and transcribed for analyses.

Another important reason for using semi-structured interviews to collect data is related to the definition of knowledge discussed above as it affects individual competency. Since the theory of knowledge creation defines knowledge as "a dynamic human process of justifying personal belief as

part of an aspiration for the truth” (Nonaka, 1994, p15), this kind of data can be best obtained through interviews. The semi-structured element of the methods enabled the researcher to probe the ways in which individuals ‘justify’ their personal beliefs.

3 KNOWLEDGE MANAGEMENT

Our society is turning into a “knowledge society” regardless of the type of the organisation (Drucker, 1968; Bell, 1973 and Toffler, 1990). Part of understanding and building up an organisation, is for the organisation to be able to interact within its environment and know how to create, distribute and manage information and knowledge, and innovation (Nonaka, 1994). Innovation, in fact, can be the starting point of new knowledge that has the potential to change the knowledge system that is currently being followed within an organisation. Therefore, organisations should be looking at innovation in terms of how they are creating and processing their information and knowledge, rather than on how to deal with the information and knowledge.

3.1 The Ontological Dimension of KM

Nonaka (1994) described this as the individuals’ interaction which is essential for the development at the organisational level. A further dimension that should be considered is the degree of social interactions between individuals within an organisation to share and develop knowledge and to what degree they are they willing to do. Are they committed to the organisational knowledge process? Do they have the autonomy (intention) to do this? Are they stable in their job or do they want to leave? Interviews were conducted in organisations in Kuwait and the answers to these questions will be explored in this paper.

3.2 The Epistemological Dimension of KM

Epistemology is what is considered and accepted as being knowledge (Bryman and Bell, 2007). Epistemological KM deals with the non-human nature of knowledge as expressed formally.

3.3 The Theory of Knowledge Creation

The theory of knowledge creation deals with knowledge as “a dynamic human process of justifying personal belief as part of an aspiration for the truth” (Nonaka, 1994, p15). The theory is called the spiral of knowledge creation, created by Nonaka and Takeuchi (1995). This theory is explained in section 2.6 and then it is used in section 5 to understand how to develop individual learning using KM in Kuwaiti organisations.

3.4 The Meaning of Knowledge Management

Many writers have sought to define KM. The first step is to distinguish between data, information and knowledge. Data can be obtained from observations or measurements as row numbers, images, words and/or sounds, for example a survey. Information, unlike data, is organised to represent a meaningful output, such as the analyses and guidelines extrapolated from a survey. Knowledge is the product of application, analysis and the use of data and/or information (Hislop, 2009). KM has been defined as a combination of not only information but also experience, context, interpretation and reflection (Davenport, 1998). Firestone and McElroy (2005) stated that "KM results in better quality solutions, by enhancing knowledge processing within an organisation".

Information can also have several messages and/or meanings that might influence knowledge by adding to it, changing it or reconstructing it (Machlup, 1983). Based on Dretske (1981), information is the basis of possessing knowledge and is considered to be the median and the ground base to formulate knowledge.

KM has several meanings; one of them, according to Nonaka (1994) is “justified true belief”. It is the personal belief of an individual and how they justify it. In other words, the flow of information is what creates and organises knowledge based on an individual’s beliefs. KM relates strongly to human beliefs and their actions.

Both information and knowledge can be seen from two perspectives; the syntactic and the semantic as shown in Table 1. Defining Information and knowledge:

	Information	Knowledge
Syntactic	The amount of information we have regardless of what it means. For example, a telephone bill will be charged based on the minutes using this service, dependent on time duration, local or international call, the time the call was made and so on. It does not charge based on the content or the value of the telephone conversation. (Shannon and Weaver, 1949).	Meaning cannot be found within the information during the knowledge creation process.
Semantic	Is when the meaning of the information is considered rather than the mean of the information (Dretske, 1981). When information contains new meanings that contribute to making a difference. (Bateson, 1979)	It is about the meaning that it contains.

Table 1. The meaning of Information and KM

3.5 Tacit and Explicit Knowledge

According to many KM gurus there are two types of knowledge, tacit and explicit knowledge, as described by Polanyi (1966). Explicit knowledge is knowledge that can be communicated in formal language. Tacit knowledge, on the other hand, is very personal because it depends on an individual's actions, commitment and involvement and it is hard to formally communicate. Polanyi stated that individuals have more knowledge embodied within them than that which they can actually formalise into words. The amount of spoken knowledge is in fact very minor when compared to what an individual can offer. John-son-Laird (1983), described it from the cognitive perspective as the "mental models", because it is in an individual's mind where they will manipulate information and come up with new or developed knowledge within the context of the current situation and what will potentially happen in the future. These thinking processes are affected by an individual's beliefs, viewpoints and thoughts. However, from the technical side of the tacit knowledge, it is all about know-how, crafts, and skills needed for a job.

Bateson (1973) described communication between individuals beyond the analogue as being between colleagues and sharing their tacit knowledge. He described it as a "parallel processing" of the current situation while dealing, at the same time, with another problem or situation. Unlike explicit knowledge, which is "digital" and can be found in databases, archives and other means.

3.6 The Spiral of Knowledge

Nonaka and Takeuchi (1995) developed the spiral of KM. The purpose of this is to enable the users to convert existing knowledge, with its tacit and explicit forms and ontological and epistemological dimensions, to new knowledge. The idea of knowledge creation was discussed by Anderson's ACT Model (Anderson, 1983). He described two types of knowledge declarative knowledge the cognitive and explicit kind of knowledge, and procedural knowledge which involves physical activity and is tacit knowledge.

There are four modes of knowledge creation that take place whilst considering tacit and explicit knowledge:

1. **Socialisation:** (from tacit knowledge to tacit knowledge). In this mode, individuals exchange and interact with each other through socialisation and what they are doing is conveying tacit information from one individual to the other's inner tacit self. This knowledge could be shared or acquired through means other than language, such as observation, imitation, and practice. For example, some organisations will use on-job-training (OJT) and employees will gain their

knowledge through observations and practice, so that the more they practice the more solid tacit knowledge they will gain through experience.

2. Externalisation: (from tacit knowledge to explicit knowledge). This mode is about metaphor and models. Lakoff and Johnson (1980) defined metaphor in terms of when a person explains or describes something using another form.
3. Combination: (from explicit knowledge to explicit knowledge). This mode involves individuals using some kind of mechanism to exchange and combine their explicit knowledge, such as meetings, telephone calls and e-mails. When explicit information is sorted, categorised and so on, it will lead to new explicit knowledge. The process of getting explicit knowledge from other explicit knowledge is called combination.
4. Internalisation: (from explicit knowledge to tacit knowledge). This mode is about learning by doing.

The theory of organisation supports socialisation, combination and internalisation but includes little support for externalisation. Each mode of the knowledge conversion can independently create a new knowledge by itself; however the purpose of this model is to have interactions among modes while considering the tacit and explicit knowledge. Shifting from one mode to another is what is termed the “cycle”.

4 GAINING COMPETENCY THROUGH LEARNING

Many movements have been established in order to maximise an individual’s competencies through learning. For example, Burgoyne (1993) discussed the National Vocational Qualification (NVQ) movement which was developed mainly (1) to educate individuals to perform vocational types of work and (2) to give more training than knowledge to develop their skills. The end result however from the educationist point of view was not favourable. It is true that the trainees will be more skilful through repetition but this will not give them the knowledge of what makes it effective work, hence it will be difficult for these trainees to adjust to new situations or circumstances.

Burgoyne (1993) described competence from a technical point of view as learning objectives for a person to gain as skills. However the question here is, to what degree are skills gained from training being backed up by knowledge? There are methodologies that were developed for the purpose of measuring the effective work of an individual (Cambell, Dunnette and Lawler, 1970), however these methodologies are rarely used fully. The normal view is that competence is best measured by the end performance in correlation with job criteria.

Competency was initially used to describe the behaviour between student and teachers in the field of education (Bowden and Masters, 1993), while Boyatzis (1982) discussed competency within the field of management. In fact competency has been used in many different fields, depending on the context of where and what it is used for (Burgoyne, 1993). For example, competency has been used in psychology and management theories, and by human resource managers, educationists and politicians (Hoffmann, 1999).

Competence is used to describe the training needs and to fill the gaps between an individual and the job requirements and has been the subject of much research. Competency is the common language of linking the implementation of an individual’s practices to the organisational goals and strategies.

McClelland (1973) defined competency in terms of personal characteristics; aptitudes, abilities and knowledge, and the importance of competency was discussed by Prahalad and Hamel (1990). They discussed the effect of core competency on organisational success by studying companies. The first company was GTE, which in the early 1980s was considered a leading IT company, whereas the second company, NEC at this time was considered to be a small company in the IT industry. During the early 1980s, GTE sales were \$ 9.98 billion whereas NECs’ sales were only \$3.8 billion. However, by the 1988, NEC had increased their sales to as high as \$21.89 billion whereas GTEs’ sales were only \$16.46 billion (a drop of 20% to 15% of their sales). Not only that, but NEC had become one of the

best IT companies in the world and also the only IT company to be in the top five companies for revenue. The main reason for this change was that NEC used core competencies in its organisation, unlike GTE who did not.

Thus competency has been used at two levels; the organisational and the individual. At the organisational level, competency is used to describe the organisational strengths and capabilities; whereas at the individual level, competency is used to develop training or learning programme for individuals.

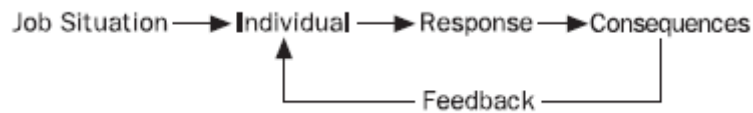


Figure No. 1 Source: Rothwell and Kazanas, 1992 cited in Hoffmann, 1999, p.277.

This model follows the output-base definition of competency (Hoffmann 1999). The model starts by describing human performance based on their job situation, such as undertaking a task. The individual then has to respond to a situation which has consequences. These consequences may be desirable, for example if they did the job well, or undesirable, for example if they did the job poorly or with bad judgement, or it could be neutral. The individual, based on the consequence, will then receive feedback. (Rothwell and Kazanas, 1992). Based on Hoffmann (1999) and Mager (1962), this model defines a clear approach to learning in order to deliver the required behavioural performance and is based on performance, condition and criteria. In fact, competency may be defined in each of the model elements, but the meaning of competency may also be shifted according to each of these elements. For example in a job situation, competency could be defined by performing the required tasks, whereas for an individual, competency could be defined by the attributes that this individual has; therefore competency can be defined as the proper response required by an individual in certain situation and consequently competency can be defined based on the desirable outcomes. (Rothwell and Kazanas, 1992). Many scholars have described and defined competency in terms of input, output, behaviour, attributes and standards, and therefore it is hard to have a universal meaning of the term competency. It is essential therefore that when discussing and analysing competency, the interpretation of competency when investigating the issue of competency within organisations and or individuals is understood. The meaning of competency as illustrated earlier may be different when discussing factors that affect an individual's competencies, and will be discussed later in this paper.

The model was used as a way of identifying an individual's performance problems; hence, it's been used as an instructional design. This is similar to the competency approach in establishing the standards of performance, assessing the training needs, providing training accordingly and assessing the training output (Rothwell and Kazanas, 1992). Competency is used as a way of controlling individuals' performances through learning management.

4.1 Competency Dimension

The purpose of the competency movement needs to be defined in relation to work and with a focus on the efficiency of management learning.

The "dimension of the competence debate" considers several issues rose in the competency debate:

1. Micro to Macro: from the micro level (the individual); where they are defined, measured, applied and achieved at work through learning, all the way to the macro level (the HRM, organisational and the labour market) where the labour market and the vocational training system implement work in terms of competency philosophy.
2. Theoretical to practical: from the theoretical point of view that influences the ideas and its application to the practical points, where they implement these theories both at the micro and the macro levels.

3. Technical to political: from the technical, where individuals are traditionally educated to implement what they have been taught without questioning the techniques or politics, to the political view where individuals are given education and the skills to question, evaluate and critique their politics. This takes into consideration the micro to macro and theoretical to practical levels as well (Burgoyne, 1993).

After training and assessing the output of the training, what really affects an individual's competency after receiving and delivering competencies? Is it the training, the education, their personality, or even the working environment?

5 KM AND LEARNING:

There are three tiers of business processes that illustrate that KM and learning are inseparable:

1. Operational business process: these use knowledge but at low levels.
2. Knowledge processes:
 - a. Knowledge production: the process that generates generalised knowledge. This process starts by acquiring information, then individuals and groups are educated and later knowledge is formulated by knowledge claim evaluation (KCE).
 - b. Knowledge integration: the process that delivers new knowledge to individuals/groups through broadcasting, sharing / retrieving, knowledge sharing and teaching.

Learning by itself is knowledge processing. At the higher levels, knowledge is formulated and evaluated but at the lower levels, knowledge has to be performed. There are outcomes from knowledge, but the most important knowledge is the knowledge of others' knowledge formulation when evaluating an individual's learning formulation. In other words, being able to know what others have acquired as knowledge and being able to evaluate this is crucial as the upcoming learning objectives depend on it. Knowledge in this sense is an accumulation of beliefs, predisposition or claims. The outcome of KM is stored in an electronic storage system called the distributed organisational knowledge base (DOKB). This storage is accessible by individuals who search for knowledge to deal with a situation and are able to learn from others' knowledge, which is called single-loop learning. If the knowledge required was not available for these individuals, then a solution needs to be formulated for this problem. In this case new knowledge will be acquired, learned and formulated and then later evaluated, after which it will be considered as new knowledge and this is called double-loop learning. In fact, when these individuals can't find what they are looking for, then they have identified a knowledge gap and will need to do a knowledge production. The problem or knowledge gap once found, will go through a process to be solved, and after solving will be shared throughout the organisation. This process is called the knowledge life cycle (KLC) and exists at every level of an organisation.

1- KM processes.

This is the changing of the organisation's current processes in order to develop the organisation as well as its knowledge outcomes. Therefore, the main emphases are on the knowledge processes which will affect the knowledge outcomes. For example, changing the rules affecting KM, may result in improved KM outcomes. In fact, the process of changing KM processes may create other KM problems. In other words, KM processes are being changed for the sake of developing the developed KM processes (Firestone and McElroy, 2005).

KM is the managing of activities or processes within an organisation in order to increase knowledge through double-loop learning, which will lead to increases in innovation and the learning system. In order to have an easier way to adapt to this activity and processes, the more an individual is open to learn new knowledge, the easier that individual will be able to adapt to the new knowledge and the more capable that individual is in participating in problem solving and creating new knowledge.

Firestone and McElroy (2005) elaborated further, suggesting that there are two forms of KM:

The first-generation of KM: Is usually IT users who are mainly focused on how to capture knowledge, use it and deliver it.

The second-generation of KM: are sometimes called “the new KM”, and are those who will go beyond the first-generation and commence double-loop learning.

Factors effecting individuals’ knowledge development learning:

It is important to note that an individual’s knowledge, even if that individual is willing to share his/her knowledge, will be affected by two factors: firstly, routine versus variety and secondly knowledge of experience. If individuals are performing a routine type of job then this routine, over time, will reduce the amount of tacit information shared by individuals, simply because they are doing the same task or job over and over again and it would become more and more difficult to be creative within this routine. In contrast, if an individual’s work is varied with a variety of tasks, then this kind of work will not necessarily encourage individuals to be creative. This argument assumes that there is a lack of knowledge creation and knowledge development in routine work. Let’s assume that an individual is working on a machine and the required job is a routine one, then this does not mean that the job cannot develop, as tools, equipment and machines are all developed over time. Starting from simple tools such as kitchen tools found in the home, all the way to computers and lab equipment, these were all developed over time based on the creativity and innovations of individuals. In fact, individuals who undertake these jobs are those who know their routine jobs and tasks more than others, and hence are the best able to suggest developments to their work tasks and any other means by which to perform their job.

On the other hand, variety may discourage an individual from participating in knowledge development. Variety at work is usually found in the higher levels of an organisation, for example those where decision making occur and may also have room for knowledge creation. In the knowledge creation modes, where individuals share their tacit to tacit knowledge through socialisation all the way around the spiral to internalisation, they go through an important mode, which is externalisation where they use metaphor. In this mode individuals are faced with varied tasks that they have not previously dealt with and through trial and error they can finalise their decision. In other words, having variety at work is what will stimulate the creation of knowledge hence the use of the spiral of knowledge creation and knowledge development. This knowledge creation will later be shared with others through internalisation through learning. The question here is to what extent are these employees willing to participate in knowledge creation? Do they have the intention and the commitment to do so?

Nonaka described knowledge of experience as “an embodiment of knowledge through a deep personal commitment into bodily experience” (1994, p.22). In other words, to have the ability to utilise one’s mind and body and to be able to have a pure experience through allowing one’s self to transcend beyond the object or situation. As Yuasa (1987) described it “true knowledge” will not be gained through theoretical thinking alone, but it will be through “bodily recognition and realisation”. This concept tends to emphasise action and efficiency, which is tacit knowledge, over existing higher concepts of applications, which is explicit knowledge. However, there should be a balance between them using knowledge of rationality, which uses the combination mode. However, knowledge of rationality neglects the importance of individual commitment. Schon (1983) discussed the importance of individual reflection in action. When an individual combines his/her experience and rationale, he/she will widen their knowledge. Nevertheless, this knowledge will be affected by the individual’s own values and beliefs and later will be shared by the individual’s interpretations.

In this sense, an individual’s culture and beliefs will affect the way in which they receive and share knowledge. Individuals vary in their beliefs and values, and go to work with different qualifications and degrees, which will affect their way of receiving knowledge, and each of them will interpret knowledge based on their background as well on their job context and/or situation. As described earlier by Nonaka (1994), people will have more tacit knowledge embodied within them than they will be able to express explicitly.

In the context of the empirical data, the next section discusses the effect of personal characteristics on individual’s knowledge. In other words, as the interview data revealed KM cannot be implemented if

individuals are not willing to take KM on board. Part of accepting KM and using KM is based on individual's personal characteristics.

6 PERSONAL CHARACTERISTICS

Since the 1980s, psychologists such as Stich (1986) have researched cognitive science development and its effect on human behaviour. One of the things they have investigated was the reason why people act the way they do? What leads them to do certain things? Another psychologist, Searle (1969) discussed the relationship between an individual's language and their intention and commitment. Therefore, it is important to focus on the individual's intention, beliefs and commitment that are implied in the individual's behaviour because in the end it is the individual who will share, develop, create and innovate organisational knowledge and understanding; what affects them may help us to help them and organisations to overcome issues that hinder them from sharing and developing knowledge.

Individuals and KM:

Individuals, based on their values, belief and commitment are the one who create knowledge and develop knowledge. Therefore, it is essential for the organisation to encourage those individuals and remove any problems that discourage them from doing that. In fact the organisation should enable its employees to use and develop their knowledge for the benefit of the organisation.

Individuals will tend to create the surrounding according to their own perspective. Polanyi (1966) argued that the individual's commitment is what makes them active in creating knowledge, therefore it is considered to be the most important element in promoting the formation of knowledge within the organisation.

There are three factors affecting an individual's commitment:

Intention: people have different intentions that lead them to taking different actions according to their own personality. Therefore, intention is an action-oriented concept which is when individuals try to format their approach to others and make sense of their environment. Searle (1983) argued that it is impossible to evaluate the information or knowledge being received or created without understanding the "intention".

Autonomy: Allowing individuals to act autonomously may result in chaos; however it will also create many different opportunities. Cohen (1972) explained it from a knowledge creation point of view; those organisations that allow autonomy are more receptive to acquiring, relating, and interpreting information. Therefore, it is important for an organisation to know the level of autonomy that they should give to their individuals in order to encourage them to share their knowledge and for the organisation to explore the resulting opportunities. In fact, giving individuals a degree of autonomy will also have a positive effect on the individuals, as they will be able to express themselves and to be motivated to formulate their own interpretation of information and hence knowledge in the manner in which they think is best for them and the organisation.

Fluctuation: Individuals based on their intention, create their knowledge in ways that are best suitable for them to interact with their organisation and environment. Individuals will tend to fluctuate in a way that it is hard to predict especially at the beginning of new context (Gleick, 1987). This is based on what these individuals are facing and they will fluctuate accordingly to adjust with their environment. Individuals are not the only ones to fluctuate, as organisations fluctuate as well. Winograd and Flores (1986) discussed the breakdown occurrence of individuals, whereby their comfortable state is interrupted. This will result in them questioning their values, tools and other things which will in turn effect their commitment and will hence reconsider their thinking and actions. This rethinking will not have only have an impact on the individuals but also on their organisation too, especially if the organisation is partly responsible for the breakdown of that individual.

Eigen (1971) in his theory of evolution discussed that in order to better adapt during the process of evolution, it is essential to be able to acquire environmental information. Shimizu (1978) described how humans, as part of their survival pursuit, will derive meanings from their surrounding environment and to do this they will give a judgmental value to these things.

7 THE EFFECT OF ORGANISATIONAL CULTURE ON INDIVIDUAL KNOWLEDGE

Nonaka (1988) proposed that there are three kinds of managerial organisations:

First, the middle-up-down based model is suitable for creating a knowledge creation organisation. It is based on creative chaos, redundancy and requisite variety and the major role depends on top management decisions. Members at all levels of the organisation are important in developing and creating knowledge for the organisation. Top managers are the ones who will give their vision to the middle managers. The middle managers will plan to see that these visions come to reality hence lower managers will implement these plans. The lower managers will inform the middle managers about the implementation plan, as they are the ones who will make it happen, and the middle managers will discuss it with the top managers and so on. In other words, managers of all levels are involved as one team to reach the organisational goals and they all share developing and creating knowledge along the way.

Second, the top-down based model is more a traditional way of managing an organisation. It is based on the top management making decisions, creating concepts and passing them down to the lower levels. The middle managers from that point will learn these concepts and break them down for their employees down the hierarchy. In this model however, it is only the top managers that will be making and creating information. In addition, this model is only good for implementation when top managers know exactly what they want and need and based on this, they give orders to the lower levels.

Third is bottom-up management, which is the least used model. Decisions are made by the middle and bottom managers, rather than by top managers, who are developing the system as entrepreneurs.

Most of the managerial models in Kuwaiti sectors are the traditional ways of management, the top-down kind of management. Therefore, knowledge creation was undertaken by a certain level within the organisation, namely the top level, and was very much neglected in the rest of the organisation. Due to this kind of managerial system, individuals' experiences are not well used or facilitated. The implications for management are that they switch to the middle-up-down kind of management and maximise their benefits from all their employees.

8 DISCUSSION: USING THE SPIRAL OF KNOWLEDGE TO GENERATE AND DEVELOP INDIVIDUAL LEARNING

The interviews were conducted to understand knowledge creation in Kuwaiti organisations: the use of KM in an organisation, an individual's willingness to share knowledge, and to determine the factors that slow the development of knowledge within an organisation. To develop a wider picture of knowledge use, creation and development in Kuwaiti organisations, 41 Kuwaiti and non-Kuwaiti interviewees were chosen from different levels of private and governmental organisations, in order to see if there is a relationship between demographic data and managing knowledge. This data is discussed and interpreted in terms of the spiral of knowledge creation developed by Nonaka and Takeuchi (1995).

Starting with the first mode of the spiral of knowledge, *socialisation*, a team of individual interactions takes place whereby individuals share their experiences and thoughts with other individuals (tacit to tacit). Interviewees were asked: do you share your knowledge with other individuals in the organisation? The interviewees' answers were mostly that they do socialise and share their knowledge with each other, but the difference was the amount of knowledge that they shared. For example, some would share their experience and knowledge only with those who they knew and who had helped them in one way or another. Knowledge sharing differed according to the interviewee's nationality. Most of

the non-Kuwaitis were not willing to share. Both Kuwaiti and non-Kuwaitis were then asked: why don't you or some of your colleague share their experience with others? The main answer given was that non-Kuwaiti's don't share their knowledge because they believe that not sharing and holding things back will make their organisation need them and therefore improve their job security. The other reason was that they wished to be superior to others by being more knowledgeable.

For this stage of knowledge creation (socialisation) to be effective it is essential to form teams of individuals, preferably from different functional departments in order to deal with a situation and or to be creative and innovative to search for information and to share their experiences in order to formulate a concept. This concept will be investigated for quality and efficiency at the later stages, and if it was justifiably proven to be a good quality, then it will be considered as knowledge that will be distributed to others through learning.

Second, *externalisation* is effective when meaningful dialogues between individuals take place. To make these dialogues easier, individuals use metaphors when converting their tacit knowledge into explicit knowledge. The interviewees were asked about the means that they use to deliver their knowledge to others, and how it's done? Their answers were all similar and revolved around meeting and using different kinds of media to make their point clearer to others. The model of knowledge creation was not known by the majority of interviewees, however during the interview, their answers were full of metaphors and showed that they do use them to put across their point to others; however the majority of them did not use the word "metaphor" as a way of externalisation. It seems to be too obvious that almost no one mentioned it! For this mode, the demographic data seems not to have had any effect on the interviewee's answers.

Third, *Combination* is when teams agree on concepts then coordinate with each other to combine the external information (explicit) with the existing data (explicit) they have. This combined knowledge will then be gathered and documented. At this stage however, several rounds of trial and error will take place until the final and desired form is reached. At this stage of knowledge creation, the organisation has an important role to play. Many of the governmental organisations in Kuwait do not facilitate their systems to effectively maximise the benefit from their individuals' knowledge. In other words, they do have integrated systems, but these systems are limited to technical work, and data and information collection, but are not powerful enough to analyse and develop new explicit data. This stage of knowledge creation requires that individuals use other means such as meetings, telephone calls and e-mails, to deliver their explicit knowledge which has been reached through other explicit knowledge combination within the organisation.

Fourth, *Internalisation* is mainly learning-by-doing. Going through the experiment of the combination mode and trial and error, individuals will learn a lot from their trials and the sharing of these experiences and thoughts (explicit), and what they learn through this process will be embedded in themselves in the form of knowledge (tacit). For this stage of knowledge creation, the interviewees were asked whether they receive education on new emerging knowledge. The answers were very different depending on the organisational culture. The majority of organisations in Kuwait do ensure that their employees are trained to perform required tasks. However, few of them ensured that their employees have actually learnt what they are meant to have learnt. In the mode of internalisation, new explicit knowledge, especially that formulated from within the organisation needs to be taught to other employees, who will receive that knowledge and convert it into tacit knowledge. This knowledge is important for them to learn because it will add to their experience and hence develop them, so that in the future they can build new knowledge based on it and any other information they have.

The cycle will then go on and on as the organisation progresses and becomes bigger as more members join in. This cycle is called the "spiral of knowledge creation".

9 SUGGESTED STEPS TO IMPLEMENT KM AND MAXIMIZE LEARNING TO ENHANCE INDIVIDUAL COMPETENCY

The interview data suggest that the effectiveness of KM strategies depends on individual competency. This section discusses how to implement KM to maximise learning for effective individual competency.

The implementation of a self-organisation team is one way to implement knowledge creation within an organisation and involves individuals collaborating with each other to formulate new concepts (Nonaka, 1994). This could be achieved by providing them with a certain degree of freedom built into the system in order to allow diverse thinking and creativity by an individual, allowing them to participate in problem solving and knowledge creation. The self-organisation team should choose the right time and method for determining members from different functional departments to interact. This team will trigger organisational knowledge creation through:

1- Sharing:

Firstly, trust is a major factor in people sharing. However, it can be built between members. The more members trust each other, the more they will be willing to share their tacit experience and knowledge. During the process of interviewing Kuwaitis, the non-Kuwaiti workers were not willing to share their experience with others, partly because they did not trust others. They felt threatened, as they thought that by sharing knowledge they would no longer be required. The sharing of experience will also formulate a common perspective.

Secondly, in order to obtain and maintain the first process, members should have continuous dialogue. The identification of new information will be more respected when discussed through dialogues. Schefflen (1982) proposed the idea of interaction rhythms; that is the social interaction is both simultaneous and sequential. The speed of the rhythms plays an important role because it will allow the conversion to a concept. Hence, it is the role of the rhythms members as to how to balance its divergence, convergence and shared experiences. Both of these processes are the driving force of socialisation.

2- Conceptualisation:

Members of the team have now converted their tacit knowledge and experience into explicit by means such as face to face meetings. Also members need to follow the organisational theories and build on concepts and test it in cooperation with others. Dialogue will also help in developing others' personal theories and beliefs, and understanding them and hence will help them in knowledge creation. One important step as part of knowledge conversion is to test it and justify the use of the new concept and its quality and standards. The third step is to crystallise the created knowledge into a concrete form. This is the internalisation mode of knowledge creation which involves the learning of this new knowledge. In the end, it is the role of top or middle management to determine and evaluate the standard of the new concept before finally networking the newly created knowledge.

10 CONCLUSIONS AND FURTHER RESEARCH

The use of KM is important for the success and development of organizations. Definitions of KM were distinguished from data and information. Then, two types of KM were presented, tacit and explicit knowledge as well as the theory of knowledge creation, 'the spiral of knowledge creation'. Competency and learning were discussed in the context of KM and the role of both individuals and the organisation were analysed, as both are essential to the creation of knowledge.

The research reveals that the problem in organizations is that they lack the ability to take advantage of new emerging knowledge and facilitate it for competitive advantage through the development of individual competency. In fact, new knowledge is seen as a challenge rather than an opportunity. In order to tackle this problem, this paper discussed the background of KM, learning and its effect on

individuals' competencies. It posed the question of how individual competencies relate to KM strategy. The empirical research reveals that the KM has an important role in developing individuals' competencies and the role of learning in achieving this goal. The significant contribution this paper makes is that individual competencies have a reciprocal relationship with KM; the determining factors of individual competencies training, education, personal characteristics and culture affect KM success and are themselves affected by KM strategies.

Nonaka and Takeuchi model was used to interpret the collected data on KM use for enhancing individual's competency. The findings that particularly hampered individual participation in knowledge creation were discussed. Some individuals' chose not to share their knowledge because of trust issues. Organisations do not facilitate knowledge creation and transfer because of their management style of top-down management. In terms of management implications, the findings can be used to recommend ways in which to increase creation, transfer, sharing and use of knowledge in Kuwaiti organisations through the development of individual competency.

Further research is needed to understand whether other factors than personal characteristics affect effective KM strategies in organisations. The present research is considering how training, education and cultural backgrounds of individuals affect the effectiveness of organisational KM. It may be necessary to move the research methodology from the present qualitative interviews to the mixed methodology approach by using a survey to gather a representative sample of Kuwaiti organisations. Such a survey can consider how training, education, personal characteristics and culture affect organisational KM and individual competency.

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