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Knowledge Sharing Maturity Model for Jordanian Construction Sector

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Abstract:	

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Abstract

Purpose - This purpose of the paper is to present a maturity model developed to assess Knowledge Sharing (KS) for the Jordanian construction sector.

Design/methodology/approach - The research was conducted in three stages. The first stage consisted of the review of literature and documenting variables from the literature that highlight influence on KS in organisations. The second stage was designed for maturity model development by identifying the cultural factors that affect KS in the Jordanian construction sector through questionnaires and interviews. Factor analysis was used to find possible relationships between the cultural variables followed by semi-structured interviews. In the third stage the initial maturity model was refined through another set of semi-structured interviews.

Findings – The model presented in the paper includes three levels of maturity. The first level identifies whether the variable barely exists in company's KS practices. The second level shows the occasional techniques which the company uses to increase KS activities. The final level demonstrates the importance of the variable in affecting KS as being fundamentally ingrained in the company's vision, mission, strategy and operations.

Originality/value - The research has developed a model that can be used to measure the KS in an organisation. Although the model has been applied to the construction industry, it can easily be modified to fit other sectors.

1. Introduction

In today's business environment knowledge management (KM) is considered a key part of an organizational strategy in order to effectively use the in-house expertise and create sustainable competitive advantage. Nowadays, companies are facing an environment characterized by levels of complexity, globalization and dynamism. Furthermore, the dynamic global business market is distinguished by the rapid growth in the construction sector; globalization consequences and various world trade agreements have created a revolution in the business environment. Hari *et al.*, (2005) stated that construction organizations have been managing knowledge informally for years, but the challenges facing today's industry mean that most organizations need a more structured, coherent approach to knowledge management (KM). Therefore, construction companies need to pay greater attention to their knowledge base and the way they use their existing knowledge to compete. Sharing of knowledge or knowledge sharing (KS) is a major challenge for organizations due to variety of reasons and there is a need for understanding the main factors that have an impact on KS to be able to apply knowledge retention practices effectively. KS activities are of utmost importance for knowledge retention because when the employees leave or are let go by the organizations the knowledge and expertise goes with them (Bender and Fish, 2000). When the economy declines or for any other reason companies have to cut costs, mass layoff is the first measure (but maybe not the best) companies take to cut costs. If a KS framework is in place the knowledge which may have been lost with the exiting employees can be retained in the organisation. Several scholars have pointed out the impact of culture on KS activities (Arif *et al*., 2009; Ma and Wang, 2008; Al-adaileh, 2011; and Issa and Haddad 2008; Riega 2005; Sackmann and Friesl 2007; Siakas, *et al.*, 2010). Arif *et al.*, (2015) argued national culture (NC) as one of the major barriers to effective KS. Magnier-Watanabe and Senoo (2010) found organizational characteristics to be a stronger prescriptive factor in KM compared to NC.

This paper is divided into six sections. The next section presents a review of relevant literature which was done to determine current KS practices in Arab countries and identify the variables that impact KS. Since literature about Jordan was limited and work culture is similar in the Arab world, inputs from Arab countries could easily be adopted for Jordan. Section 3 documents the research methodology followed for the development of maturity models. Following the methodology section, the factor analysis and semi-structured interview results of Stage one are presented. Next, the initial maturity model is presented followed by

maturity model refinement where the results of semi-structured interviews conducted in the second stage are presented.

The fifth section outlines the final maturity model and summarizes the research and discusses the findings. Finally key conclusions of this research are presented.

2. Literature review

Arab management systems are hugely influenced by the Arabic language, the extended family, tribes, history, and traditional values. Islam also remains the most important aspect of Arab culture and is considered to be a symbol of identity (Sabri, 2004; Agnala, 1998). Undesirable behaviors, uncertainty and risk are avoided and the long term survival of business is one of the main priorities of top managements of Jordanian organizations (Sabri, 2004). Lok and Crawford (2004) explain that culture strongly affects leadership style and has an impact on their outcome, organizational commitment, expectation, subordinate performance, and job satisfaction. Hofstede (2001) characterizes the Arab business culture by high power distance, high uncertainty avoidance, collectivism and masculinity. Trust in organizational terms is usually fostered on a leadership level and cascaded down. The flatter the organization, the less there will be issues around trust (Plessis, 2006). Plessis (2006) states that recognition is a very important empowerment tool that encourages people to participate in KS activities. Gopalakrishnan and Santoro (2004) argue that both organizational structure and organizational culture (OC) have been identified as necessary elements for any KM initiatives' success. The current business environments are characterized by globalization, dynamism, and increasing levels of complexity due to rapid changes in technology and its connected intricate knowledge (Siakas *et al.*, 2010). However, the construction sector has been slow to recognize the benefits of Information Technology (IT) as a major communication tool (Egbu, 2001). Tlaiss and Kauser (2011) state that understanding of social networks in the Arab world is limited with only a handful of studies that have provided evidence of how social connections can support career advancement. Family businesses can be defined as businesses where at least two family members are involved both as owners and managers (Simon and Hitt, 2003). According to Weir and Hutchings (2005), this combination may play a rather different role in Jordan and Arab business organizations for the evident reason that the business organization as such is usually structured in terms of familial structures and the discourse of the family and its internal and external relations is readily applied. Haddad and Issa (2008) highlight the importance of

management support to be included as part of the work process and mentoring in KS, and indicate that organizational support and culture have a bigger effect than IT on KS. Employee relationships are an index for examining the satisfaction, respect, confidence, justice and trust relationships between employee and employer. Knowledge Sharing creates useful relationships and project interest has to be put above personal interest (Siakas *et al.*, 2010). Power distance (PD) is the degree of acceptance or perception of normality in terms of inequality among people of a country. This dimension varies over a continuum from favoring equality (low PD) to accepting inequality (high PD) (Ribiere *et al.*, 2010) and Arab countries are considered high-PD (Klein *et al.*, 2009). Klein *et al.*, (2009) defined uncertainty avoidance (UA) as the degree to which members of a society feel uncomfortable with uncertainty and ambiguity, and they found that Arab countries have high-UA. Workers in individualist societies envision knowledge creation as an intervention of individual effort, while workers in collectivist societies think of the integration and modification of existing knowledge as a group effort (Yoo and Torrey, 2002). Autonomy from a corporation perspective is the extent to which an individual or group of individuals has the freedom, independence, and discretion to determine what actions are required and how best to execute them (Manz, 1992). In the context of knowledge, all members of an organization should be allowed to act autonomously as far as circumstances permit (Nonaka and Takeuchi, 1995). Cultures that are high in masculinity may have less knowledge transfer between organizational members if the competition is between individuals and no difference if competitiveness is between organizations (Rivera-Vazquez *et al.*, 2009).

As discussed above, a variety of cultural factors are presented in the literature that affects KS from both an organizational and national culture perspective. Hofstede (2001) presented 13 variables related to Arab culture that have an impact on KM issues with five of those variables including, power distance, uncertainty avoidance, masculinity/femininity, and autonomy having an impact on KS as supported by subsequent studies (Siakas and Georgiadou, 2010; Chen *et al.*, 2010; Liu, 2009; Megdadi, 2009; Rivera-Vazquez *et al.*, 2009). In addition to the five NC variables, eleven OC variables have been chosen from the literature including, leadership behavior, organizational structure, organizational form, reward system, recognition, communication technology, social networking, relationship between employees, trust, and management commitment.

A Maturity Model is a phased approach to improving business processes over a considerable period of time. Maturity is achieved at the advanced level when processes are not only being managed well, but staffs are involved in continuous process improvement on a daily basis (Martin *et al.*, 2005). Maturity

models in areas involving process and high performance delivery are proving to be useful because they allow individuals and organisations to self-assess the maturity of various aspects of their processes against benchmarks (Neuhauser, 2004). One of the earliest examples of maturity models is Maslaw's hierarchy of needs (Maslow, 1954). Kuznets (1965) developed a models to document economic growth and Nolan (1979) developed a maturity model for IT implementation in organisations. More recently, maturity models have been developed for a range of applications. Albliwi *et al.*, (2014) presented a detailed review of literature on maturity models in business process management. Based on the levels in the maturity model, patterns of organisational evolution and change can be predicted. Maturity models typically represent theories about how an organization's capabilities evolve in a stage-by-stage manner along an anticipated, desired, or logical path (Roglinger *et al.*, 2012). Some other applications of maturity models recently have been applied to hospital information system (De Carvalho *et al.*, 2016), e-government (Karokola *et al.*, 2012), process improvement (Forstner *et al.*, 2014), and enterprise network (Manzanedo *et al.*, 2012) to name a few.

In the area of KM, Lotti (2014) presented a maturity model using equations to calculate the probability of the company to fit in to a certain level of maturity. The model gives an organization the ability to evaluate the level of its maturity and assess ways to achieve higher levels. Serna (2012) suggested that knowledge should be managed along with the human experience of knowledge itself and that proper management of such knowledge is required. An application of a maturity model with a number of small and medium enterprises in Brazil is presented by Oliveira *et al.* (2014). One of major findings of Oliveira *et al.*, (2014) is the need to invest in knowledge documentation and better relationships with business partners. A model to manage transdisciplinary knowledge and to strengthen the social benefits of transdisciplinary research is presented by Serna (2015). Khatibian *et al.*, (2010) presented an amalgamated model by combining three different published maturity models as an assessment instrument for evaluating knowledge management maturity level of the organizations. Using the ideas of quality management and process engineering, Paulzen *et al.*, (2002) developed a new model called Knowledge Process Quality Model to assess and improve KM structures and better control knowledge processes.. Hendriks (1999) presented a model to study the impact of information and communication technology (ICT) on motivational factors of KS. Hendriks (1999) concludes that ICT should be related to motivation for KS, KS should be recognized as an umbrella term for different concepts, and other factors should also be considered explicitly for effective KS. Cabrera and Cabrera (2005) presented how the people management practices and socio-psychological factors positively impact KS in an organisation. Ipe (2003) presented a model for KS between

individuals, factors that impact KS, and the relationships between those factors. Bartol and Srivastava (2002) studied the role of monetary rewards on encouraging KS and determined that rewards are important to KS. The Bartol and Srivastava (2002) study also provided guidelines on how to implement rewards for effective KS for four different mechanisms. Hall (2001) presented strategies to make intranet input-friendly, factors that promote intranet contributions by the employees, and information contributed by the employees to the intranet can be used/managed effectively. However, the research by Hofstede (2001) suggests that there would be a significant impact of culture on management practices and processes and KS is one of them. Therefore, it is important to incorporate the cultural aspects in a KS maturity model and incorporate culture specific evaluation parameters. Therefore, this paper presents the development of a knowledge sharing maturity model for Jordan. The key research question is what the main variables are and what their different maturity levels that should be used to assess KS in Jordanian construction organisations are.

3. Methodology

This paper presents a maturity model developed to assess KS for the Jordanian construction sector. The research was conducted in three stages. The first stage consisted of the review of literature and documenting variables from the literature that highlight influence on KS in organisations. Papers that highlight some specific variables about Arab culture that have impact on KS in organisations were also reviewed for this research. This led to the development of an initial list of variables. The next step was to choose a way forward and examine relevant data collection and analysis methodologies. The two commonly used basic research methods are: the quantitative and qualitative methods. According to Bryman and Bell (2015), the quantitative method requires the collection of statistical/numerical data demonstrating a view of the relationship between theory and research. Quantitative methods are understood to be easily replicable due to use of standard mathematical formulas. On the other hand, “the qualitative method tends to be concerned with words rather than numbers” Bryman and Bell, (2015). The findings of qualitative research are focused acknowledging the qualities of phenomena rather than their mathematical measurement. The qualitative method covers the subject of study holistically. It produces a wealth of detailed data on a small sample and the data collection is not restricted to predetermined categories or themes (Hyde, 2000). For this research the establishment of correlations between variables in order to organize the knowledge sharing variables into smaller number of groups was important. This

approach required the use of a quantitative methodology specifically factor analysis. Factor analysis is a collection of methods used to examine how underlying constructs influence the responses on a number of measured variables (DeCoster, 1998). Exploratory factor analysis (EFA) attempts to discover the nature of the constructs influencing a set of responses (DeCoster, 1998). Factor Analysis was used to describe the variability among the indicators initially identified through literature review using a questionnaire survey. This enabled in the reduction of the number of indicators and the formation of three factor groups as presented in figure 1. This is stage two of the paper. This stage was designed for maturity model development by identifying the cultural factors that affect KS in the Jordanian construction sector through questionnaires and interviews. This also led to the development of maturity levels to assess the cultural impact through interviews. Factor analysis was used to find possible relationships between the cultural variables. In addition, semi-structured interviews which are a qualitative technique were conducted in stage one to verify the questionnaires data and to understand how cultural factors affect KS. Semi-structured interviews allow much more flexibility of response, with a conversational style between the interviewer and the interviewee (Fergusson and Langford, 2006). The interviews also helped to develop maturity levels able to assess that impact. The initial maturity model was developed in stage two. In the third stage the initial maturity model was refined through another set of semi-structured interviews. Since both quantitative and qualitative methods were used, the overall approach for this paper could be classified as mixed methods approach.

4. Factor Analysis and Semi-Structured Interviews

A survey was conducted at the 2010 Jordanian Builders Conference. Participants were chosen from five of the biggest construction companies in Jordan. To obtain appropriate data, middle and high level managers that were familiar with KS activities were chosen. The respondents had to rank each variable in terms of the effect on KS by using a five point Likert scale with response options ranging from “strongly agree” to “strongly disagree.” A total of 153 responses were received, of which 103 participants were male and 50 were female. The social research software SPSS was used to statistically analyze the data. An Exploratory Factor Analysis (EFA) was conducted to develop mutual exclusive categories of variables. Table 1 shows the rotated component matrix with the factor loading for each variable. The five main factors and the variables included in each factor are as follows:

Factor 1: Management Commitment, Teamwork, Power Distance, Reward System, Recognition from Management, Organizational Structure, and Uncertainty Avoidance

Factor 2: Gender Differences, Leadership Behavior Style, and Collective Achievements

Factor 3: Social Networking and Autonomy

Factor 4: Relationships between Employees and Communication Technology

Factor 5: Mutual Trust between Employees and Organizational Form

Table 1: Rotated Component Matrix

Variable	Component				
	1	2	3	4	5
Management commitment	**.820**	.097	-.097	.111	.208
Teamwork	**.786**	.131	.375	.023	.134
Power distance	**.780**	.044	.173	.067	.030
Reward system	**.760**	.034	.232	.098	.229
Recognition from management	**.741**	.251	.001	-.136	.158
Organizational structure in terms of information flow	**.718**	-.146	.070	-.109	-.249
Uncertainty avoidance	**.492**	.414	-.214	.471	.150
Gender differences	.204	**.768**	.070	.267	-.190
Leadership behaviour style	-.010	**.763**	.212	-.014	.215
Collective achievements	.087	**.641**	.192	-.226	.238
Social networking	.133	.167	**.785**	.166	.097
Autonomy	.175	.175	**.776**	-.002	-.013
Relationships between employees	-.063	.042	.082	**.819**	-.240
Communication technology	.119	-.075	.209	**.653**	.447
Mutual Trust between employees	.120	.140	-.021	.015	**.752**
Organizational form	.465	.209	.291	-.275	**.610**

After completing factor analysis, interviews were arranged with four senior managers in construction companies. This was done to understand how the organizational and national culture variables affect KS in the construction sector in Jordan and to support the data that was collected from the questionnaires. Semi-structured interviews were organized and questions were designed to understand the impact of the variables on KS. Open ended questions on how each variable impact KS and how these variables are dealt with were asked. Respondents were given three different solutions to choose from including, good, medium or bad. The intent was to identify maturity levels for each variable which helped in designing

the proposed maturity model. All participants agreed that all the variables in the questionnaire affect KS practices. The feedback from the participants is discussed next.

Leadership behavior: The participants agreed that a leader can create a friendly environment between employees or suitable work environment to share knowledge smoothly and give employees the chance and time to talk through their ideas about certain issues. On the other hand, if he/she could not manage the bonding relations among employees, this would unfortunately create sensitive relations among employees and between employees and their leaders.

Reward system and recognition: Due to the relationship between these variables, the participants suggested combining these two variables onto one as a motivation variable. According to Plessis (2006) rewards go hand in hand with recognition. Employees want to be recognized and rewarded for the contribution of intellectual capital that they make towards the knowledge base of the organization, and also for the way they assist in improving the innovativeness of the organization through new and creative solution building. The participants agreed that motivation affects KS as employees may feel unwilling to share information when they are not recognized or rewarded for their achievements. The participants thought that a reward system should be inclusive to all employees in the company and that there should be proof that there is a reward/recognition for sharing knowledge.

Collectivism and teamwork: The participants suggested combining collectivism and teamwork. According to the participants' experience, they recommended that all employees should work as one team in the company, and there should be a team organizer to make sure that all employees work as a team and support communication between teams to increase information exchange.

Gender differences: Three participants suggested that there are no differences between employees in the work place which can affect KS. However, one participant (female) suggested that different genders affect KS. From her point of view, she was not willing to share knowledge with her male colleagues if she felt that they were anti-feminist which has an effect on relationships between employees and their trust in each other. To overcome this

problem, the company should strengthen the equal rights for both female and male employees through training sessions on how to get along with both genders.

Organizational structure: Two participants agreed that for efficient information exchange, it is important to ask the right person and recommend a hierarchical structure for information flow in a construction company. However, another two participants pointed out that hierarchical procedure can slow the information flow and sometimes knowledge has to be shared as quickly as possible. It can be argued that none of the structures completely support KS practices. A combination of the two structures with the following traits is proposed:

- The structure should support information flow by creating communication channels between departments.
- The structure should be suitable for employees at different levels to send and receive information easily.

Organizational form: Since most of the construction companies in Jordan are family owned, family members have more power and better incentives than others, even if they are in lower positions. The participants recommended that the owner should hire people based on their abilities and not based on personal relationships and all employees should be treated equally. Also, if the owner receives information from a relative, the owner should verify the information by listening to the other party.

Mutual Trust: The participants suggested that a company should strive to create a trustful environment in the workplace to increase KS practices between the management and the workforce which can be done through meetings and seminars to solve trust issues. All participants agreed that this variable is very important for KS and has a relation to other variables such as organizational form, leadership behavior and gender. However, sometimes it is not important for all employees to know certain information. Such information might be confidential or too important to be shared which can negatively affect company performance, goals and vision.

Communication Technology: Based on the survey we found that the companies provide employees with basic communication technology such as telephones, internet, PC/laptops and mobile phones, but they are not available for all employees especially at project sites.

According to the participants, this affects KS in terms of cost, time, and effort. If there is a direct connection between project sites and the head office through an internet server available to all employees, then this helps in increasing KS.

Social networking: Participants use social networking for personal life but were not aware of use of social networking for KS. It can be argued that the use of social networking in the Jordanian construction sector is limited and some companies are not aware of the benefits of social networking in terms of KS.

Power distance: Jordanian society accepts inequality of power distributions (high power distance) with more powers to family members which adversely impacts KS. The participants suggested that the company's policy should emphasize employing the right person for the right position, regardless of relationship with the owner.

Uncertainty avoidance: According to the participants, when employees avoid issues they are not familiar with or they do not have enough information about them, that can affect KS negatively. Sometimes employees do not have the required information to complete their tasks and on the other hand, the participants argued that it is not necessary to keep all employees updated with what is going on in the company. The company can solve this problem by training sessions, job manuals, and through daily meetings and memos.

Relationships between employees (outside the company): Relationship between employees is the key for trust, and when there is trust between employees there is increased KS. Good relationships create a trustful and friendly work environment. However, female employees do not like outside relationships with male employees because of the conservative nature of Jordanian society. Companies may encourage better relationships among employees by organizing activities outside the company such as a party or dinner hosted by the management.

Autonomy: According to the participants, autonomy can affect KS practices in terms of the degree of freedom that employees perceive in decision making. It can be argued that the leadership behavior determines the level of autonomy within organizations. However, the participants pointed out that the employees do not have always the freedom to share their ideas with the management, which indicates low empowerment. The Jordanian construction

sector can be categorized as high autonomy, and that affects empowerment among employees to share their knowledge. The participants suggested that the company should increase empowerment for all employees despite their position.

Management commitment: According to the participants, the management has to support and encourage employees to share knowledge. Management supports certain positions which depend on the employee experience and the value of knowledge. Top management support is not inclusive. For example, civil engineers or designers with years of experience are seen as a company assets and may be treated differently. All the participants suggested daily meetings, seminars, memos and supportive technology that the management should to adopt to increase KS.

Based on the interviews, we concluded that all variables included in the questionnaire affect KS practices in the construction industry in Jordan. Most respondents were familiar with the importance of KS and the variables discussed and they suggest that companies should give more attention to those variables and KS practices. Relationships between some variables were also discovered after discussions with the participants. Since recognition and reward systems shared the same goal, which is motivating employees in sharing knowledge; the two variables were combined as a motivation variable affecting KS. Also, team work can be affected by collectivism in terms of KS; therefore, we combined both variables as collective achievements. Thus, the cultural variables were reduced from 16 to 14.

The factor analysis output categorized the 16 variables into five groups but based on the mergers explained above and rearrangement of some of the variables the groups where reduced to three. Factor analysis results showed that the first group included management commitment, teamwork, power distance, reward system, recognition, organizational structure, and uncertainty avoidance relate to management variables. Hence we categorized the seven variables as the management variables group. The second, third and fourth groups also contained seven variables including gender differences, leadership behavior, collective achievements, social networking, autonomy, relationship between employees, and communication technology. All these variables relate to communication and hence we categorized the seven variables as the communication variables group. The last group contained two variables including mutual trust and organizational form. However, since the first group deals with management variables, leadership behavior was moved into the first group. As discussed above, reward system and recognition were merged and renamed

motivation. Teamwork from the first group is merged with collectivism as collective achievements. The three groups are shown in figure 1.

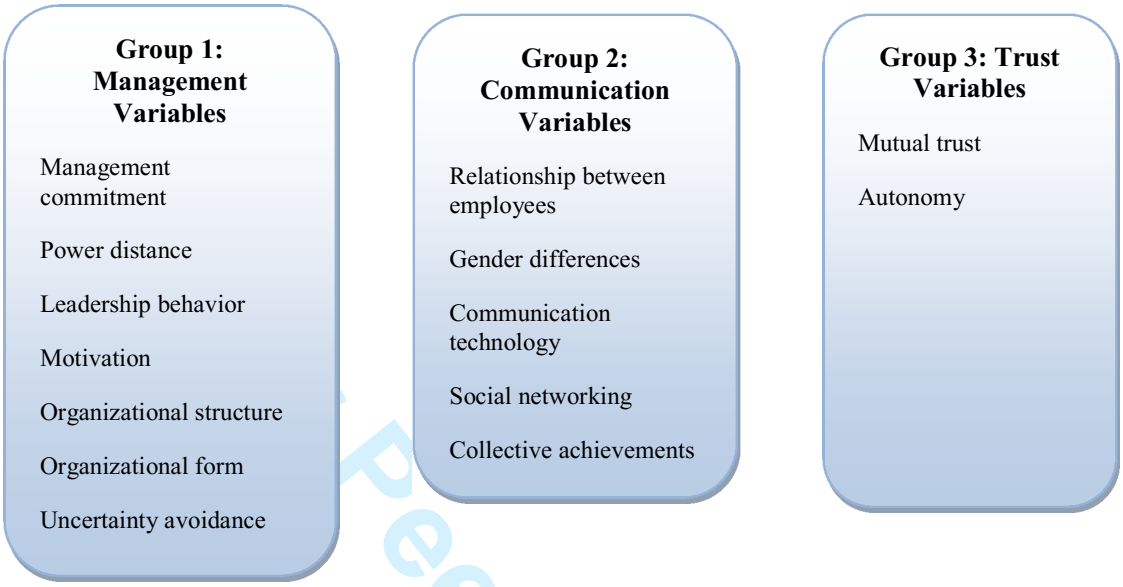

Figure 1: Groups/factors after semi-structured interviews

5. Model development

For developing the model relationships and the interactions between the cultural variables were considered. The impact of variables on KS was incorporated with the three maturity levels. For example, the third level of organizational form variable shows the interaction between this variable and power distance. Arab countries are high power distance which means the people accept unequal power distribution in the society. Since most construction companies in Jordan are family businesses managerial positions are granted to family members and relatives, even if they are not suited for those jobs. Family members have more power even if they are at lower positions in hierarchy. To avoid this problem a third level was designed to ensure equal rights for all employees even for relatives or family members as part of the company's values and strategy. The interview questions were designed to assess the cultural impact by giving three solutions to participants on how to avoid an impact. The participants had to rate three suggested solutions for each variable as good, medium or bad. The reason for choosing three levels was to make it easier for participants to distinguish between the levels. The more levels one has, the more difficult it becomes to distinguish characteristics at each level and it becomes more difficult to see the

difference. The first level identifies whether the variable barely exists in company's KS practices. The second level shows the occasional techniques which the company uses to increase KS activities. The final level demonstrates the importance of the variable in affecting KS as being fundamentally ingrained in the company's vision, mission, strategy and operations.

The model required further refinement to make it practical for the Jordanian construction sector. So the next step was to refine the proposed model through more interviews. Six middle and high level managers were interviewed after reviewing their position, responsibilities, decision making power and awareness of KS principles to collect significant information to support the research findings. All of the participants worked as project managers, held at least a Bachelor's degree in civil engineering with more than 10 years of work experience, and acknowledged KS practices. The interviews took approximately forty minutes each to complete. In addition, the proposed framework was introduced to participants and questions asked relating to the contents of maturity levels for each variable and their relevance to the participants.

The first question in the interview focused on the variable groups to validate variable assignment to groups. Four participants agreed that each variable was in the right place but two participants were not sure whether some variables belonged to their group. One belief was that the organizational form is related to the management variables category. Another belief was that relationship between employees variable is more closely related to the trust variables group. Thus, relationship between employees variable was moved from the communication to the trust variables group and organizational form variable moved into the management variables group.

The second question was on the clarity of the definitions for variables. The participants recommended improving the definitions of power distance and uncertainty avoidance. The participants were then asked about the contents of three maturity levels for each variable. In terms of the motivation variable, the participants found level 2 was not clear enough, thus more explanation was needed. Some other variable definitions including, leadership behavior style (level 2), power distance (level 1), and autonomy (level 1, 2 and 3) were also suggested to be improved. The uncertainty avoidance variable was not clear to participants in terms of maturity levels. They believed that sometimes employees should not know everything in the company since some items are sensitive and could negatively affect the company's goals. Also, there was a suggestion from participants that training sessions should be added in level 2 of the management commitment variable. The final comment about maturity levels was

about the collective achievements variable. According to participants, there were no links between levels 2 and 3 and they believed that both levels asked the same question or concentrated on the same activity.

The participants were also asked if the three maturity levels were enough to assess the impact of cultural variables on KS. Additional KS practices where recommended to participants that could be added in the framework to find suitable practices or enough maturity. But the participants agreed that the three maturity levels were enough to assess that impact in their companies. The final question was whether they had further comments on the framework. Two participants suggested that personality and monitoring variables should be included in the framework. One participant argued that all variables in the framework affect KS and they can be controlled only in a suitable environment without personality issues. It can be seen from both answers that focusing on the personality variable is difficult to assess.

Based on the feedback from the participants the initial framework was modified to give more clarity and to make it more appropriate for the Jordanian construction sector. Table 2 shows the refined framework, and highlights the changes that were made according to the participants' recommendations. If for any variable, the answer at level 1 is a "no", then that means that it is at a level 0 and it needs to establish a system to incorporate that variable within the organization.

Table 2: The Refined Framework

Variables	Level 1	Level 2	Level 3
	Barely exist but not implemented	Occasional use by the company	Fundamentally ingrained in the company vision, mission, strategy, and operations
Management Variables:			
Motivation: How does the company motivate employees to share knowledge?	Is there a reward for KS?	Before Refinement: Is it all inclusive? After Refinement: Is it inclusive for all employees?	Is the reward system just participatory or based on the value of KS?
Management commitment: How do top managers support knowledge sharing practices to provide a suitable environment for KS practices in the workplace?	Does it support KS? Is it one of the management properties?	Before Refinement: Do they emphasize KS through regular memos/meeting? After Refinement: Do they emphasise KS through regular memos/meeting or training sessions?	Is it part of the vision, mission, and strategy of the company?
Leadership behaviour Style: How do leaders behave to encourage and support employees to share knowledge?	Are leaders task-oriented or people-oriented?	Before Refinement: If people-oriented, do leaders involve other employees in decision making? After Refinement: If the firm is people-oriented, do leaders	Do leaders enhance employees through sharing vision, strategy and values rather than power and control?

		involve subordinates in decision making?	
Power distance: The extent to which members of a society accept that power in institutions and organisations is and should be distributed unequally.	Before Refinement: Is the power distributed equally in the company? After Refinement: Is the power/decision making distributed equally in the company?	If no, do employees accept that situation and share knowledge?	Is the company's policy emphasis on employing the right person for the right position?
Uncertainty Avoidance: The degree to which members of a society feel uncomfortable with uncertainty and ambiguity, and support beliefs promising dimensions that will affect sharing new information among the company members (Klein, *et al.*, 2009).	Are all employees up to date with what is going on in the company?	Does the company make clear any uncertain issues to all employees through seminars, meetings and memos?	Does the company have a manual or job description for each job in the company operation? And is it part of the company's strategy and procedures to share the new knowledge to employees in a short time?
Organizational Structure: Division of tasks between individual employees, groups or departments and locations. To control the work of an entity, procedural methods and measures are adopted which support KS activities.	Does it support information flow?	Is it suitable for all employees from different levels to send and receive information easily?	Is it part of the company procedures which supports ease of information flow with fewer boundaries between divisions?
After Refinement: Organizational Form (Family business): How do family members in the company affect knowledge sharing activities and	Are top managers related to the company's owner? If yes, this might affect	If yes, do they share the whole information with others?	Does the company's vision, value and strategy stress that all employees are equal, even relatives (business is business)?

how do employees react with them in terms of knowledge exchange?	KS, top managers might give wrong information to the owner to keep his/her position.		
Communication Variables:			
Autonomy: The extent to which an individual or group of individuals has the freedom, independence and discretion to determine what actions are required and how best to execute them, and how this kind of freedom affect KS activities within the company (Migdadi, 2009).	Before Refinement: Do employees prefer to manage themselves?	If yes, is it for all employees of any level?	Is it part of the company's strategy and processes provide independence for individuals and groups to share knowledge?
	After Refinement: Do employees prefer to manage themselves and take responsibilities?	If yes, is it for all employees at any level or just for certain positions? Is it at individual or group level?	Is it part of the company's strategy and processes to give autonomous personal responsibilities through participated decision making to increase knowledge sharing?
Before Refinement: Relationships between employees (outside the company): The social activities which employees do outside the company to strengthen the connection between them to increase KS and the company role support these activities.	Are employees doing social activities outside the company?	Does the company do outside activities for employees to strengthen the communication between staff?	Is it part of the company's strategy to build strong relationships between employees to share knowledge?
Communication technology: The amount of communication technology the company provides to increase KS among employees such as laptop,	Does the company provide all employees with the basic	Is it up to date? Are there training sessions for the new technology?	Does the company have an annual budget for up grading communication technology?

phone, fax, PC, and internet.	technology for KS?		
Social networking: The interaction between groups of people who share a common interest; using social contacts to network. Using internet network groups to network and communicate between each other for faster and easier to access information exchange.	Is it accessible to all employees for knowledge exchange?	Is there social networking between outside locations and company's headquarter office?	Do the company's management keep up dating social network systems in the company to raise KS activities among employees?
Gender differences: Focuses on the degree the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power which affects female members in sharing knowledge.	Are both genders equal in the work place in terms of KS?	If not, does the company encourage sharing knowledge between male and female members through training sessions in how to work with different genders?	Does the company's policy/regulation stress equal rights for both male and female staff to increase knowledge sharing?
Collective achievements: Focuses on the degree the society reinforces collective achievements and interpersonal relationships.	Do employees work as a team or individually?	Before Refinement: Does the company emphasise teams working together through working at the same task to exchange information?	Before Refinement: Is it part of the company's values, mission, procedures and strategy to make sure all employees in the company work together as one team through continual meetings/memos?
		After Refinement: Does the company emphasise team work through seminars/meetings to exchange information or	After Refinement: Is it part of the company's values, mission, procedures and strategy to make sure all employees or teams in the company work together as one team through

		experience?	strengthening the communication channels between teams and training sessions to increase knowledge sharing?
Trust Variables:			
Mutual trust between employees	Are there trust issues between employees affecting KS?	Does the company set up seminars/meetings to solve trust issues to increase KS? Is it at an individual or group level?	Do the company's policies create a trusting environment to make sure knowledge sharing is perceived fair and willingly recognized among employees?
After Refinement: Relationships between employees (outside the company): The social activities which employees do outside the company to strengthen the connection between them to increase KS and the company role support these activities.	Are employees doing social activities outside the company?	Does the company do outside activities for employees to strengthen the communication between staff?	Is it part of the company's strategy to build strong relationships between employees to share knowledge?
Before Refinement: Organizational Form (Family business): How do family members in the company affect knowledge sharing activities and how do employees react with them in terms of knowledge exchange?	Are top managers related to the company's owner? If yes, this might affect KS, top managers might give wrong information to the owner to keep his/her position.	If yes, do they share the whole information with others?	Does the company's vision, value and strategy stress that all employees are equal, even relatives (business is business)?

6. Results and Discussion

In summary, the research was conducted through two data collection stages. The first stage included two steps for maturity model development. The first step was conducted through self-administered questionnaires, and the data was analyzed by using the computer software package SPSS. The descriptive analysis provided the research with significant results in terms of identifying the cultural variables that affect KS in the Jordanian construction sector. The results showed that the selected cultural variables do affect KS practices; however, the awareness of OC factors is higher compared to NC factors. The results of factor analysis showed that the investigated helped grouping the variables. Further investigation was required to validate factor analysis results. The second step was designed to support the results gathered from questionnaires through semi-structured interviews. The results gave a better understanding of the cultural factors in affecting KS and confirmed some relationships between variables. From the questionnaire and interview results a maturity model was developed. In the second stage modifications including, maturity levels content and factor definitions were made to the suggested framework. These considerations were therefore taken into account for the final development and refinement of the maturity model.

Arif *et al.*, (2015) have presented relative importance of the three factors in KS. They concluded that the most important factor is trust, which is followed by the management factors and finally the communication factors.

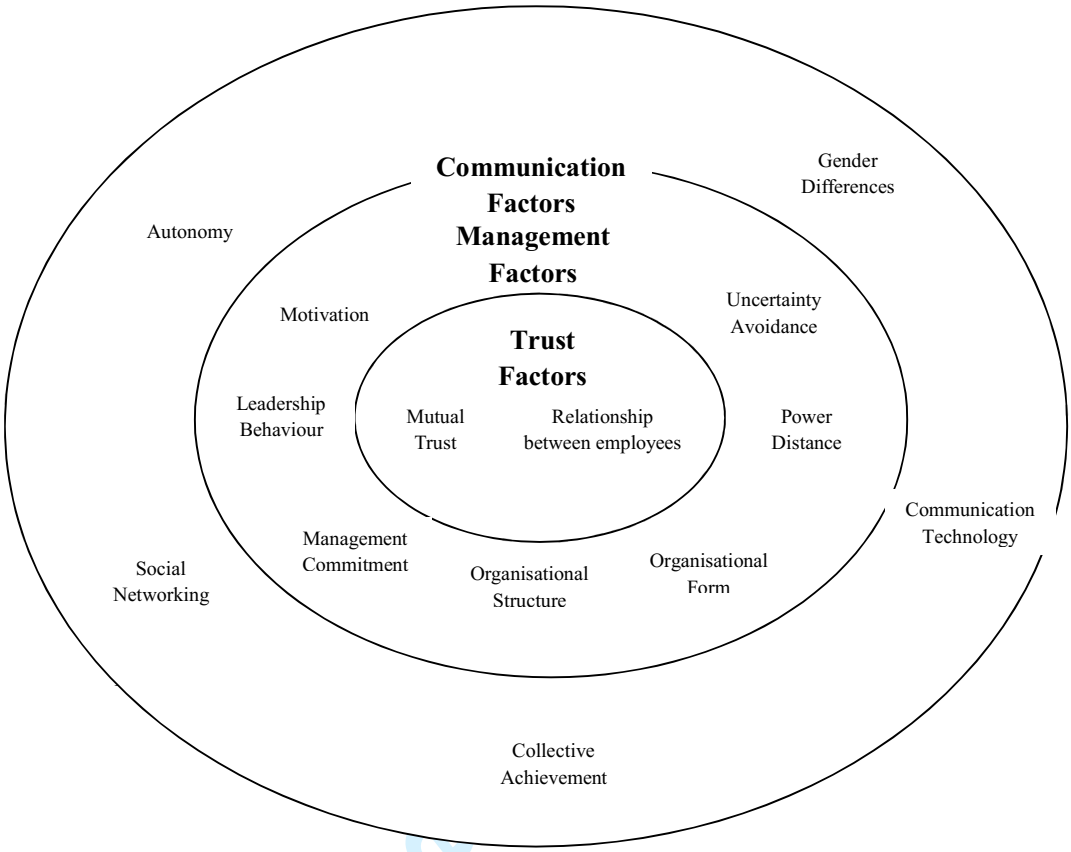

Figure 2: Schematic Description of the Maturity Model Priorities

Figure 2 shows the three cultural factors groups that affect KS practices within construction organisations, and classifies each group in terms of its contribution or influence on KS. The management factors are focused on encouraging employees to share their knowledge, by adopting managerial strategies and techniques. Leadership behaviour and management commitment factors are responsible to enhancing KS as a cultural value among subordinates through encouragement, support and build up strong relations with them. In terms of the motivation factor, rewarding or recognising KS contribution will motivate employees to increase KS activities within organisations. The other factors including organisational form (family business), power distance, uncertainty avoidance and organisational structure allow the company to create an environment that encourages the company members to share knowledge. Organisational form (family business) describes the relationship between family members or relatives with other employees in terms of KS. Most of the powerful positions are given to family members even if they are not suitable for that job, and family members do share knowledge with people they trust the most. Therefore, this type of form should close the gap between family members and other employees, and encourage them to share their knowledge despite of their relation to the owner. In addition,

the power within organisations has to be distributed equally among the company members which creates a trustful environment to share knowledge. On the other hand, the organisational structure type is supporting the information flow within firms in order to send and receive the knowledge at the right time, and to the right person which increases KS activities. Therefore, it is expected that when the organizational structure is less formalized, less centralized, and more integrated, social interaction among organizational members is more favourable which increases knowledge sharing activities. In terms of uncertainty avoidance, sometimes employees feel unconformable with uncertain issues that affects negatively on the company's performance and minimize KS practices. To avoid uncertainty within organisations, employees have to be continually updated with changes through memos or meetings, and provided with instructions (job manual) to gain knowledge and share it with others. It can be argued that the management factors create an encouragement environment in order to increase KS.

On the other hand, the communication factors facilitate KS practices and increases the communication channels inside and outside the company by adopting techniques and tools that support KS effectively. For instance, through communication technology and social networking it becomes easier for employees to send or receive knowledge in the right time, at the right place, and for the right person. Moreover, gender differences, autonomy and collective achievements reduce the gap between employees. Gender differentiation can affect negatively on KS practices such as in an Arab culture where female employees have limited rights compared to males. These differences have an influence on the relationships and trust between employees to share knowledge. Organisations with high level of autonomy, the gap between managers and subordinates are smaller compared with low autonomy organisations. High level of autonomy gives opportunity for employees to share decision making, take responsibility and build strong relationships between managers and subordinates which supports KS. In terms of collective achievements, working in teams or as one team within organisations provides a chance for employees to exchange information with colleagues and gain more experience or knowledge to complete tasks.

Trust factors is considered a core group for KS, without mutual trust and strong relationships between employees knowledge can be difficult to be shared. The relationship between employees is the key for mutual trust in terms of KS; people are not willing to share information with others that they do not trust. Mutual trust can be achieved by building strong relationships between employees through social activities that can be internal or external to

the company. It can be argued that the trust factors group is essential for successful KS implementation, and the other two groups depends on the trust factors to increase KS. By covering the three groups, organisations can install KS as a culture value among employees. Through this research the key research question has been answered. The model can be used in several ways. It could possibly be used as a scoring tool with each maturity level scored at 1, 2, and 3 respectively. If an organization does not have a variable that is being assessed at all, then it could be scored a "0." The aim of this model is to provide an overall score but to assess the level and identify opportunities for improvement. Therefore an organization could be at level 2 of maturity along one variable and level 1 of another variable and that is all that can be determined about the organization. What is not going to be achieved is an overall rating of the organization for KS. Arif *et al.*, (2015) presented the relative importance of the factors but the relative importance of the variables within a factor has not been identified, so they could be either assumed to be of equal importance or the organization using this maturity model could develop an importance scale. The second implication is that this model helps identify the opportunity of improvement and the way to achieve this improvement. This could be used as a decision tool by organisations to assess what they want to improve and how. As Akre (2012) pointed out about maturity models, not every organization using a maturity model would want to achieve the highest level of maturity along all parameters. However, a maturity model gives a firm the visibility to decide what to improve and how.

It is also important to list limitations of this research. The first limitation is that the variables within a factor have not been prioritized and it is assumed that all variable have equal impact on knowledge sharing. The second limitation of this research is that it does not present an application of the maturity model on a case study. These two areas of research should be undertaken by future researchers.

7. Conclusion

KS is an important element for any organisation. This research has developed a maturity model for assessing the KS for the Jordanian construction sector. A range of variables were documented from literature and then were classified into three categories. The most important of these variable being trust. Initiatives and systems that lead to the improvement of trust between employees is the most important factor for KS. Activities and events both on a social level and formal events at work are quite important when it comes to developing trust among employees. The second most important factor is the management

factor. Seven variables makeup the management factor and include power distance, uncertainty avoidance, motivation, leadership behavior, management commitment, organizational structure and organizational form. The third factor is the communication factor which includes variables such as autonomy, social networking, collective achievement, communication technologies and gender differences affect the communication factor in Jordanian construction section. The model presented in table 2 could be used to assess KS in any construction sector organization in Jordan. The model presented can also be used to identify opportunities for improvement. The maturity model presents three levels of maturity. If a firm is assessed as an organization at level 2 for a certain variable, it can strategize ways to advance to level 3. If the finding is that even at level 1 the answer is "no" then the organization is at a level 0 and should work at incorporating that variable within the organization. This maturity model will help organisations in identifying their level of maturity and the opportunities for improvement.

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Table 1: Rotated Component Matrix

Variable	Component				
	1	2	3	4	5
Management commitment	**.820**	.097	-.097	.111	.208
Teamwork	**.786**	.131	.375	.023	.134
Power distance	**.780**	.044	.173	.067	.030
Reward system	**.760**	.034	.232	.098	.229
Recognition from management	**.741**	.251	.001	-.136	.158
Organizational structure in terms of information flow	**.718**	-.146	.070	-.109	-.249
Uncertainty avoidance	**.492**	.414	-.214	.471	.150
Gender differences	.204	**.768**	.070	.267	-.190
Leadership behaviour style	-.010	**.763**	.212	-.014	.215
Collective achievements	.087	**.641**	.192	-.226	.238
Social networking	.133	.167	**.785**	.166	.097
Autonomy	.175	.175	**.776**	-.002	-.013
Relationships between employees	-.063	.042	.082	**.819**	-.240
Communication technology	.119	-.075	.209	**.653**	.447
Mutual Trust between employees	.120	.140	-.021	.015	**.752**
Organizational form	.465	.209	.291	-.275	**.610**

Table 2: The Refined Framework

Variables	Level 1	Level 2	Level 3
	Barely exist but not implemented	**Occasional use if the company use it**	**Fundamentally ingrained in the company vision, mission, strategy, and operations**
Management Variables:			
Motivation: How does the company motivate employees to share knowledge?	Is there a reward for KS?	**Before Refinement**: Is it all inclusive? **After Refinement**: Is it inclusive for all employees?	Is the reward system just participatory or based on the value of KS?
Management commitment: How do top managers support knowledge sharing practices to provide a suitable environment for KS practices in the workplace?	Does it support KS? Is it one of the management properties?	**Before Refinement**: Do they emphasize it through regular memos/meeting? **After Refinement**: Do they emphasise it through regular memos/meeting or training sessions?	Is it part of the vision, mission, and strategy of the company?
Leadership behaviour Style: How do leaders behave to encourage and support employees to share knowledge?	Are leaders task-oriented or people-oriented?	**Before Refinement**: If people-oriented, do leaders involve other employees in decision making? **After Refinement**: If they are people-oriented, do leaders	Do leaders enhance employees through sharing vision, strategy and values rather than power and control?

		involve subordinates in decision making?	
Power distance: The extent to which members of a society accept that power in institutions and organisations is and should be distributed unequally.	**Before Refinement**: Is the power distributed equally in the company? **After Refinement**: Is the power/decision making distributed equally in the company?	If no, do employees accept that situation and share knowledge?	Is the company's policy emphasis on employing the right person for the right position?
Uncertainty Avoidance: The degree to which members of a society feel uncomfortable with uncertainty and ambiguity, and support beliefs promising dimensions that will affect sharing new information among the company members (Klein, Waxin and Radnell 2009).	Are all employees up to date with what is going on in the company?	Does the company make clear any uncertain issues to all employees through seminars, meetings and memos?	Does the company have a manual or job description for each job in the company operation? And is it part of the company's strategy and procedures to share the new knowledge to employees in a short time?
Organizational Structure: Division of tasks between individual employees, groups or departments and locations. To control the work of an entity, procedural methods and measures are adopted which support KS activities.	Does it support information flow?	Is it suitable for all employees from different levels to send and receive information easily?	Is it part of the company procedures which supports ease of information flow with fewer boundaries between divisions?
After Refinement: Organizational Form (Family business): How do family members in the company affect knowledge sharing activities and	Are top managers related to the company's owner? If yes, this might affect	If yes, do they share the whole information with others?	Does the company's vision, value and strategy stress that all employees are equal, even relatives (business is business)?

how do employees react with them in terms of knowledge exchange?	KS, top managers might give wrong information to the owner to keep his/her position.		
Communication Variables:			
Autonomy: The extent to which an individual or group of individuals has the freedom, independence and discretion to determine what actions are required and how best to execute them, and how this kind of freedom affect KS activities within the company (Migdadi 2009).	**Before Refinement**: Do employees prefer to manage themselves?	If yes, is it for all employees of any level?	Is it part of the company's strategy and processes provide independence for individuals and groups to share knowledge?
	After Refinement: Do employees prefer to manage themselves and take responsibilities?	If yes, is it for all employees at any level or just for certain positions? Is it at individual or group level?	Is it part of the company's strategy and processes to give autonomous personal responsibilities through participated decision making to increase knowledge sharing?
Before Refinement: Relationships between employees (outside the company): The social activities which employees do outside the company to strengthen the connection between them to increase KS and the company role support these activities.	Are employees doing social activities outside the company?	Does the company do outside activities for employees to strengthen the communication between staff?	Is it part of the company's strategy to build strong relationships between employees to share knowledge?
Communication technology: The amount of communication technology the company provides to increase KS among employees such as laptop,	Does the company provide all employees with the basic	Is it up to date? Are there training sessions for the new technology?	Does the company have an annual budget for up grading communication technology?

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Gender differences: Focuses on the degree the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power which affects female members in sharing knowledge.	Are both genders equal in the work place in terms of KS?	If not, does the company encourage sharing knowledge between male and female members through training sessions in how to work with different genders?	Does the company's policy/regulation stress equal rights for both male and female staff to increase knowledge sharing?
Collective achievements: Focuses on the degree the society reinforces collective achievements and interpersonal relationships.	Do employees work as team or individually?	**Before Refinement**: Does the company emphasise teams working together through working at the same task to exchange information?	**Before Refinement**: Is it part of the company's values, mission, procedures and strategy to make sure all employees in the company work together as one team through continual meetings/memos?
		After Refinement: Does the company emphasise team work through seminars/meetings to exchange information or	**After Refinement**: Is it part of the company's values, mission, procedures and strategy to make sure all employees or teams in the company work together as one team

		experience?	through strengthening the communication channels between teams and training sessions to increase knowledge sharing?
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Mutual trust between employees	Are there trust issues between employees affecting KS?	Does the company set up seminars/meetings to solve trust issues to increase KS? Is it at an individual or group level?	Do the company's policies create a trusting environment to make sure knowledge sharing is perceived fair and willingly recognized among employees?
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Before Refinement: Organizational Form (Family business): How do family members in the company affect knowledge sharing activities and how do employees react with them in terms of knowledge exchange?	Are top managers related to the company's owner? If yes, this might affect KS, top managers might give wrong information to the owner to keep his/her position.	If yes, do they share the whole information with others?	Does the company's vision, value and strategy stress that all employees are equal, even relatives (business is business)?

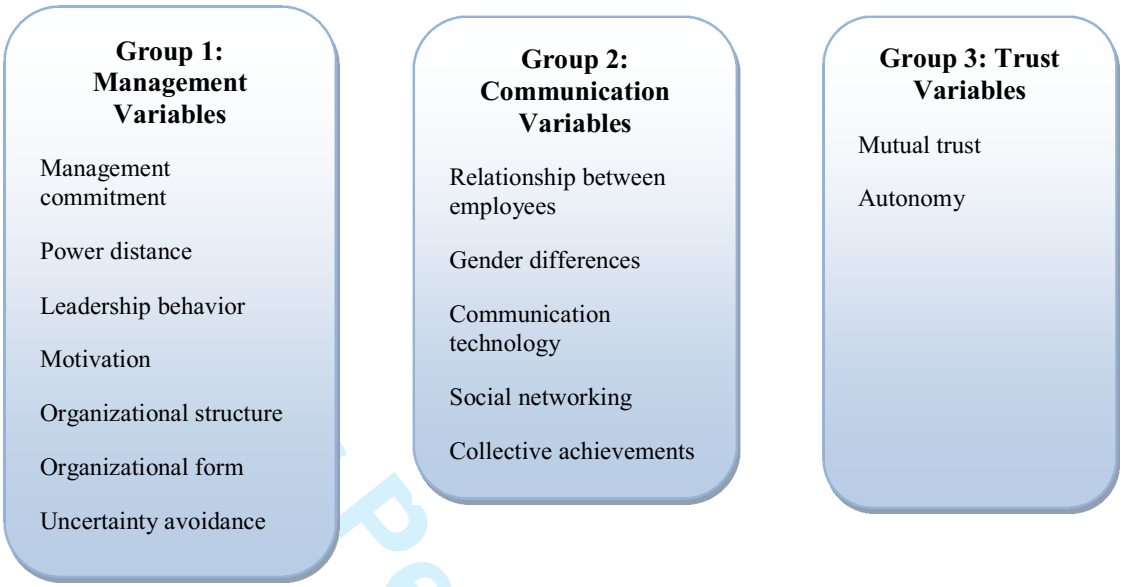

Figure 1: Groups/factors after semi-structured interviews

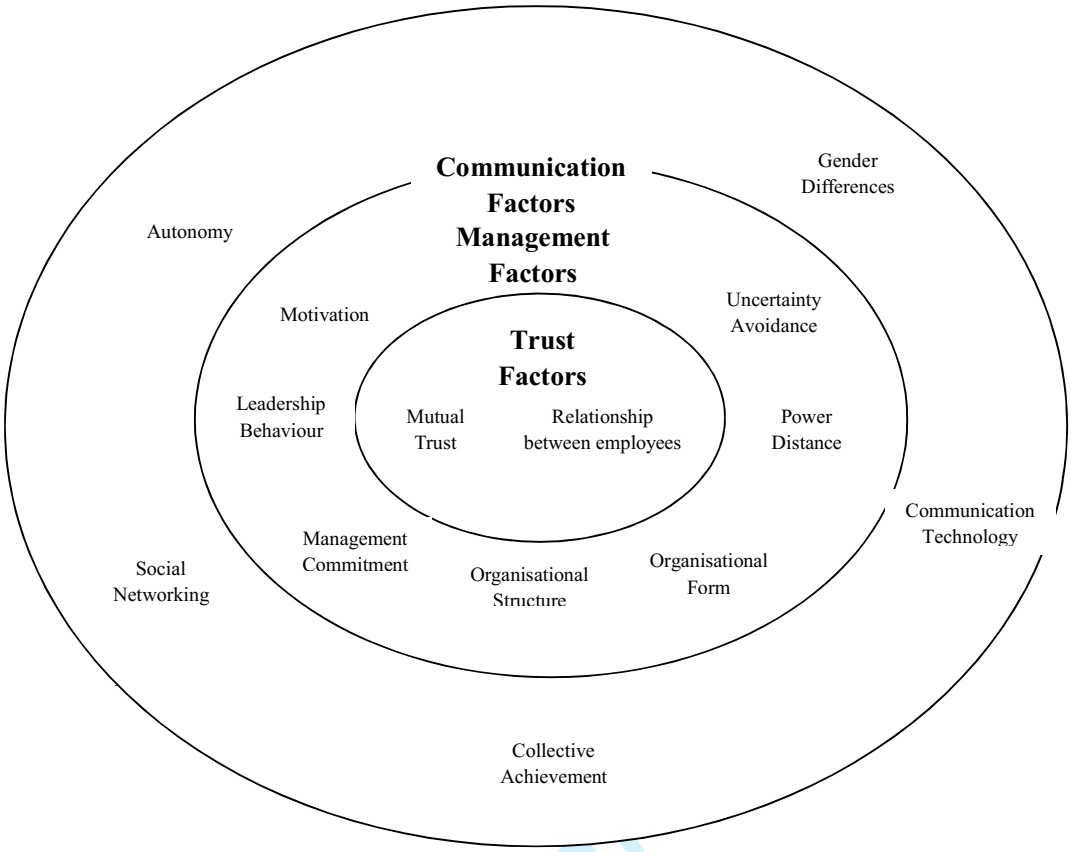

Figure 2: Schematic Description of the Maturity Model Priorities

Dr. Derek Thomson
Deputy Editor, Engineering, Construction and Architectural Management

Dear Dr. Thomson:

First of all we would like to thank you and the reviewers for some very valuable comments. Based on the comments we have revised the paper. In addition, please see our responses below for the different comments from the reviewers.

Reviewers Comments to Author	**Authors Response to Reviewers Comments**
Reviewer 1 Comments Additional Questions: 1. Originality: Does the paper contain new and significant information adequate to justify publication?: Knowledge sharing is a topic that has a potential to convey significant information and justify publishing. However, the manuscript should be thoroughly revised upon below's comments in order to realize that potential.	We have revised number of sections of the paper.
2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: No. Literature section lacks the identification of other knowledge sharing models, that would lead to presentation and justification of the conceptual framework adopted. Additionally, literature section should be providing a more critical analysis of the most relevant literature on the topic, comparing several streams of literature, identifying gaps in the literature and finally presenting the research question to be explored.	We have added more discussion in the literature review section.
3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts or other ideas? Has the research or equivalent intellectual work on	We have moved the methodology section after the literature review section. We have also added discussion on the published literature to support our research.

which the paper is based been well designed? Are the methods employed appropriate?: No. Even the structure of the paper should be reorganized - methodology section can not be presented prior to the literature review. Methodology section is unsupported, in terms that no references have been cited in odrer to offer the theoretical basis for the methods applied and provide understanding of their appropriateness.	
4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: No. Section should be called Results and discussion rather than Summary and discussion. Furthermore, this section is not adequately tied with other parts of the paper because the research question(s) was not clearly stated in the beginning, so the results couldn't have been discussed in relation to that question. Finally, the results were not related to either relevant results of previous studies, in order to compare them and argue significance.	We have renamed the section. We have also added more discussion in the results section that ties all the sections together.
5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: Starting from a poorly reasoned theoretical background as well as not clearly stated need for this investigation, in the end this paper does not clearly indicate what would	We have added discussion on implications in the 'Results and Discussion' section.

be the implications for science, practice and/or society. What would be the benefits of using this very model? Does it really work? Shouldn't the limitations, primarily in terms of the need for trial period, mentioned together with implications? 6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the fields and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: No. Quality of communication could be significantly improved through more logical structuring of paper's sections. Additionally, authors should be more careful not to mislead the readers - terms which are not considered in the analysis should be removed from the key words. Finally, not all references cited in the text are listed in the reference list. The reference list should be organized alphabetically and updated (there are only 3 references published after 2010).	We have made changes in all the sections of the paper to bring more logical structure to it. The references and citations have all been fixed.
Reviewer 2 Comments - In the literature review, need to have a brief section on maturity models - The authors need to justify the selection of the method, ie why survey and interview. - The authors also need to explain why the proposed model adopted three levels - The authors tend to write a very long paragraphs, eg in the literature review section, which make difficult to follow. - The description of the models in Table 2 is not really clear. For example, on	We have added discussion on maturity models in literature review section. We have made multiple changes in the size of the sections.

'motivation' for level 1, is defined by a question 'Is there a reward for KS'. What then 'no reward for KS' means? - The interaction between Figure 3 and Table 2 needs to be elaborate. How the priority affect the maturity. For example, if a company is measured on level 2 for all management variables and communication variables, but only level 1 in trust, should it be considered still in level 1 or level 2? Additional Questions: 1. Originality: Does the paper contain new and significant information adequate to justify publication?: Somewhat, in the context of Arab management system 2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: The literature focus on the cultural factors. There is no literature on maturity models 3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The authors need to justify the selection of the method, ie why survey and interview. The authors also need to explain why the proposed model adopted three levels. 4. Results: Are results presented clearly and analysed appropriately? Do the	We have added discussion on maturity models in literature review section.

conclusions adequately tie together the other elements of the paper?: The description of the models in Table 2 is not really clear. For example, on 'motivation' for level 1, is defined by a question 'Is there a reward for KS'. What then 'no reward for KS' means? The interaction between Figure 3 and Table 2 needs to be elaborate. How the priority affect the maturity. For example, if a company is measured on level 2 for all management variables and communication variables, but only level 1 in trust, should it be considered still in level 1 or level 2? 5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: Yes	
6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the fields and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The writing need to be improved. The authors tend to write a very long paragraphs, eg in the literature review section, which make difficult to follow.	We have made multiple changes in the size of the sections.