

# **KNOWLEDGE SHARING CULTURE IN A RESEARCH AND DEVELOPMENT DEPARTMENT OF AN ARABIAN GULF COMPANY**

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## **Abstract**

*Knowledge sharing is an important element of knowledge management initiatives in organizations. The aim of this research is to investigate the existing levels of knowledge sharing and organizational culture in a Research and Development department of an Arabian Gulf Company and to provide recommendations to decision makers relating to the best approaches to improve knowledge sharing. The study was conducted on a large petrochemical company in the Arabian Gulf region. A questionnaire was used to collect data from selected departments in the company. Questionnaires were distributed in total one hundred and fifty and fifty were returned and used for data analysis. All study variables of knowledge sharing (KS), trust, communication between staff, leadership and reward system were found to have a high level of existence. The study suggests for the company to promote KS through fostering a reward culture, a trust environment, and to support communications network that operate freely, where knowledge providers and knowledge seekers can access knowledge in the organization through the shortest path.*

*Keywords: knowledge sharing, organizational culture, research and development, Arabian Gulf*

## INTRODUCTION

Knowledge is the main competitive element in the knowledge economy (Drucker, 1993; Nonaka, 1994; Chase, 1997). Knowledge of individuals and of organizations have become increasingly valued and is now considered to be vital element of the competitive environment. Many organizations have recognized that creation, sharing, and management of knowledge are crucial for their success in the business environment.

Knowledge management (KM) denotes the effective identification, acquisition, development, resolution, usage, storage and sharing of knowledge, leading to the development of systems and approaches for transforming and sharing both tacit and explicit knowledge (Shanhong, 2000). According to Ford (2001), the process of KM involves several activities, wherein, the most commonly discussed one is Knowledge Sharing (KS).

Despite the fact that organizations have developed and adopted several methods to improve KS in technological wise, those methods are not utilized effectively (Park et al.,2004). This implies that successful KM implementation requires more than using latest technological tools. In that sense, it is possible to assume organizational culture may affect KS process. Moreover, when considering the creation of KM initiatives, it is essential to create a culture of KS as the main goal of managing knowledge is to make KS the norm in an organization (Plessis, 2006).

The term 'culture', in its wider context, displays a notion of shared attributes (such as language, religion, beliefs, traditions, heritage), and values that distinguish one group or society from another (Schein, 1990). Hofstede (2003) describes culture as the collective programming of the mind (the way people think and interpret information) which distinguishes one group of people from another.

The aim of this study is to investigate the existing levels of knowledge sharing and organizational culture in the AGC in terms of trust, communication between staff, leadership, and reward system, and to provide recommendations to decision makers relating to the best approaches to support successful KS.

## LITERATURE REVIEW

There are many factors that affect the implementation or creation of a knowledge-sharing culture and there is a need to consider these factors in any such initiatives (Reige, 2005; Oliver and Kandadi, 2006; Sondergaard et al., 2007; Sackmann and Friest, 2007). A large amount of research has been conducted on KS initiatives and culture relating to successful KS strategies (McAdam and Reid, 2001; Handzic and Agahari, 2004; Oliver and Kandadi, 2006; Han and

Anantmula, 2007; Sondergaard et al., 2007; A-Shammari, 2010, Al-Adaileh and Al-Atawi, 2010; Al-Adaileh, 2011).

A number of cultural dimensions that likely influence KS have been identified. Rhodes et al. (2008) conducted survey study amongst 1,086 high-tech companies to identify the main factors that influence KS. It was found that several common factors affect KS in these companies such as IT systems, structured learning strategies, innovative organizational culture, and flexible structure and design.

Gumus (2007) investigated the effects of communication among staff on KS in an organization. A questionnaire was conducted to collect data from 167 academic and administrative in COMU, Turkey. It was found that KS is strongly related with communication. Gammelgaard (2007) investigated the impact of incentives on KS. He conducted survey study and produced data from 1,535 respondents from nine different organizations located in four different countries. It was found that reward is positively related to KS. Guan (2006) conducted a study on KS and identified some organizational factors such as collaboration, mutual trust, learning, leadership and incentives/rewards that factors that affect KS.

Obaisat (2005) examined the impact of organizational culture on knowledge creation and found that trust, mass culture, visions, Language and shared stories, management practices and cultural norms are critical to knowledge creation. Al-Shammari (2005) discussed issues in using a Data Warehouse and a Customer Relationship Management system to capture and share knowledge in a telecommunications company in Bahrain and found that the organizational culture is among other factors which resulted in failure of this initiative. Holowetzki (2002) examined cultural factors that impact knowledge management initiatives and found that these factors included information systems, organizational structure, reward systems, processes, people, and leadership. Al-Alawi et al. (2007) identified critical success factors for organizational culture and KS in Bahrain where he chose trust, communication between staff, information system, reward systems and organization structure as organizational factors.

## **RESEARCH METHODOLOGY**

### **Sample**

The study was conducted on a large petrochemical company in the Arabian Gulf region. The sample was chosen from the population of Research and Development Department workforce. The sample of the study included one hundred employees, top level managers, mid-level managers, and lower level managers, who are the key decision-makers with regards to sharing of knowledge in the organizations. The sampling method used was census which measures the entire target population.

## **Questionnaire**

This study used the questionnaire survey to collect the data necessary to achieve the objectives of the study. The questionnaire used was adopted from Islam (2011). In structured survey, fifty questionnaire returned and used for data analysis. A web-based questionnaire was employed because it is convenient and enables the gathering of instant responses from respondents.

## **Mean Score**

The questionnaire was based on the use of 5-point ascending-based Likert scale (1 represents the lowest score and 5 the highest). The mean score were rated as follows:

- *Low* - 1-2.49;
- *Medium* - 2.5-3.49; and
- *High* - equal to or more than 3.5.

If the mean value of the statements is more than or equal to 3.5, then the level of agreement with the statements measuring a particular variable is high. If the mean value of the statements ranges between 2.5 and 3.49, then the level of agreement with the statements is medium. If the mean value of the statements is equal or less than 2.49, then the level of agreement with the statements is low.

## **Definition of Variables**

### ***Trust***

Trust represents the climate in which people trust each other. It also involves employee faith in corporate goal attainment and organizational leaders, and their belief that organizational action will prove beneficial for employees (Ribe`re, 2001). Trust among employees is a very essential attribute in organization. Some researchers believe interpersonal trust as the cornerstone of knowledge-sharing cultures (Stankosky, 2005; Figallo, 2002; Cohen and Prusak, 2001).

### ***Communication between staff***

Communication here refers to human interaction through oral conversations and the use of body language while communicating. Employee interaction is greatly enhanced by the existence of social networking in the workplace (Smith and Rupp, 2002)

### ***Leadership***

Leadership is defined as the process of influencing others towards achieving some desired goals (Jong and Hartog, 2007). The leaders act as role models for the behavior in which KS

occurs, as well as, making the incentives for doing so (Kerr and Clegg, 2007). The leaders facilitate networks of knowledgeable employees of the organization and provide best practice of coordination and collaborative activities (Kerr and Clegg, 2007).

### **Reward orientation**

Reward orientation is the degree to which reward allocations are based on employee performance in contrast to seniority or favoritism (Van de Post and DeConing, 1997). In fact, KS is often the subject of organizational reward structures. Organizations must reward KS and team cooperation more than individual achievements (Davenport and Prusak, 2000).

### **Knowledge Sharing**

KS can be defined as the dissemination of information and knowledge throughout the organization (Ling, Sandhu and Jain, 2009). Al-Hawamdeh (2003 in Al-Shammari, 2010) defines KS as “the communication of all types of knowledge including explicit knowledge (information, know-how and know-who) and tacit knowledge (skills and competency). KS can be also defined as the dissemination of information and knowledge throughout the organization (Ling et al., 2009).

## **EMPIRICAL RESULTS**

### **Scale Reliability**

This instrument has been previously used and tested by Islam (2011). Cronbach alpha was used to test the consistency of the results produced by the scale as shown in Table 1. Cronbach alpha measures the consistency based on the extent to which a participant who answered a question in certain way will respond to other questions in the same way.

The internal reliabilities of all scales were between 0.520 and 0.851, exceeding the recommended value of 0.50, which is considered as an acceptable level of reliability (Sekaran, 2004).

Table 1 Reliability of the Scale's Variables

<b>Variable</b>	<b>No of items</b>	<b>Cronbach Alpha</b>
Trust	5	0.520
Communications among staff	3	0.617
Leadership	6	0.851
Reward System	3	0.600
Knowledge Sharing (KS)	4	0.609

## Demographics of Respondents

Respondents were asked to provide demographic information and the results are documented in Table 2. In the demographics, 94 percent of the respondents were predominantly male, while only 6 percent were female. Respondents were primarily in the age bracket of 36 to 45, and had more than 8 years of service with the company. Further, most respondents are employees holding bachelor degrees.

Table 2 Demographic Characteristics of the Sample

<b>Sample Characteristics Level</b>	<b>Frequency</b>	<b>Percent</b>
<b>Gender</b>		
Male	46	94
Female	4	6
<b>Age</b>		
Less than 25	6	2
25-35	11	22
36-45	15	30
46-50	11	22
Above 50	7	14
<b>Experience (years)</b>		
Less than 2 years	4	8
2years -4years	7	14
5years -7years	7	14
8years -10years	19	38
More than 10years	13	26
<b>Position</b>		
Top level manager	3	6
Middle level manager	9	18
Lower level manager	11	22
Others	27	54
<b>Education Level</b>		
PhD Degree	0	0
Master's Degree	3	6
Bachelor Degree	25	50
Diploma	16	32
Others	6	12

## Knowledge Sharing in the AGC

The respondents' perceptions of KS practices are documented in Table 3. Employees' perceptions of KS have an average mean value of 3.85. This indicates that top management

and employees are committed to sharing their knowledge and have positive attitudes towards KS and its implementation. Most of the respondents agreed that, by nature, they exchange experience and share knowledge with their colleagues while working.

Table 3 Mean Perceptions of Knowledge Sharing

Indicators	Mean	Level
1. Certain tasks are accomplished through teamwork and collaboration between employees	4.01	High
2. Co-workers commonly exchange their knowledge and experience while working.	4.00	High
3. The problem of people hoarding (keeping) knowledge does not exist and most staff members are willing to share their knowledge freely.	3.70	High
4. I do not hesitate to share my feelings and perceptions with my fellow colleagues.	3.72	High
<b>Total</b>	<b>3.85</b>	<b>High</b>

Table 3 also shows that item No.1 (Certain tasks are accomplished through teamwork and collaboration between employees) has the highest mean value of 4.01 as perceived by top management and employees. This indicates that the company maintains the reliability component in KS and this gives the company its validity in the business environment. On the other side, this requires from the company to expand the range of teamwork tasks in order to enhance KS among employees. With respect to item No.3 (The problem of people hoarding knowledge does not exist and most staff members are willing to share their knowledge freely) has the lowest mean value of 3.70 and this requires series of steps from AGC to address this problem which affect KS among employees.

This result could be understood that the majority of the respondents were willing to know and share and the majority believed that KS would add positive values to AGC. It was encouraging to note that the staff members generally possessed a positive attitude towards KS and were aware of its importance in company.

## Organizational Culture in the AGC

### *Trust*

Table 4 compiles respondents' perceptions of organizational culture in terms of Trust. Employees' perceptions of trust have an average mean value rating of 3.71 and this revealed that the majority of employees have a trusting and encouraging environment, However, AGC still needs to improve the culture of trust among all groups.

Table 4 Mean Perceptions of Organizational Culture in terms of Trust

Indicators	Mean	Level
1. I believe co-workers should not share personal information.	3.60	High
2. Certain rules and procedures exist to protect the person sharing his/her knowledge against harmful intentions of others.	3.81	High
3. Most of my colleagues are people whom I know well and thus are considered trustworthy.	3.74	High
4. I have not been previously harmed as a result of sharing my knowledge with my co-workers.	3.69	High
5. I believe people will not hesitate to take advantage of others knowledge and experience for personal gains.	3.60	High
6. A considerable level of trust exists between co-workers in this organization.	3.83	High
<b>Total</b>	<b>3.71</b>	<b>High</b>

Table 4 also shows that the highest mean as perceived by respondent of participants is item No.6 “A considerable level of trust exists between co-workers in this organization” has the highest mean value of 3.83, that shows that AGC places great importance on trust dimension as the previous results support each other, to even enhance this factor, AGC may be required to adopt a trust building programs to change positively the organization culture towards trust between the co-workers and colleagues.

On the other hand, both item No.1 (I believe co-workers should not share personal information.) and item No.5 (I believe people will not hesitate to take advantage of others knowledge and experience for personal gains.) have scored the lowest mean value of 3.60. This reveals that a significant number of respondents fear that somebody might use their knowledge for his/her advantage alone (Statement 5). AGC still needs to take measures to promote a culture of trust among employees and make KS practices more effective.

### ***Communication between Staff***

Table 5 shows the level of organizational culture in terms of Communication between Staff. Participants believed that communication between staff culture in AGC as perceived by the top management and employees has an average mean value rating of 4.20 and this revealed that the communication between staff is in its highest level.

Table 5 Mean Perceptions of Organizational Culture in terms of Communication between Staff

<b>Indicators</b>	<b>Mean</b>	<b>Level</b>
1. There is a high level of face-to-face interaction among colleagues in the workplace.	4.05	High
2. Language is not a problem when communicating with other staff.	4.56	High
3. Teamwork discussion and collaboration enhance communication between colleagues.	3.99	High
<b>Total</b>	<b>4.20</b>	<b>High</b>

Table 5 further shows that the second item (Language is not a problem when communicating with other staff) has the highest mean value of 4.56. Hence, language is not considered a barrier to effective communication and sharing knowledge with others. On the contrary, item No.3 (Teamwork discussion and collaboration enhance communication between colleagues.) has relatively low mean value of 3.99, in comparison to other statements. This is due to the fact that some employees perceive in teamwork a loss of autonomy; a lack of confidence or trust, and a lack of awareness of one provider of the knowledge, and skills held by other colleagues from other disciplines and professions. This is also explained by the tendency of some staff members to work in an individual manner.

### **Leadership**

As depicted in Table 6, status of organizational culture as perceived by the top management and employees in term of Leadership has an average mean value rating of 3.86. This indicates that the top management and employees of the company are committed to sharing their knowledge and have positive attitudes towards KS and implement it in their practices.

Table 6 Mean Perceptions of Organizational Culture in terms of Leadership

<b>Indicators</b>	<b>Mean</b>	<b>Level</b>
1. My manager encourages open and honest dialogue on all issues.	4.08	High
2. My manager develops and encourages a sense of purpose and unity in our team.	4.10	High
3. My manager sets clear objectives, outlining requirements and expectations.	3.89	High
4. My manager motivates team members to set and achieve high performance standards.	3.92	High
5. My manager actively seeks a win/win solution on cross-functional issues.	3.68	High
6. My manager keeps me informed about what is going on in the organization.	3.53	High
<b>Total</b>	<b>3.86</b>	<b>High</b>

Table 6 also shows that item No.2 (My manager develops and encourages a sense of purpose and unity in our team) has the highest mean of 4.10. As such, the respondents agreed that the leadership variable in all items would be a significant dimension to the level of effectiveness of organizational culture and this represented by an average mean of 3.86.

The findings denote that the top management leadership and commitment is perceived positively among AGC staff members and considered a critical factor in the organizational culture of AGC. Also, these results show that employees believe that there is commitment by the leaders to create an environment wherein people are able to share knowledge and are allowed to understand as well as practice the acquired knowledge.

### **Reward**

Table 7 documents perceptions of organizational cultural in terms of Reward. As demonstrated in Table 7, status of organizational culture as perceived by top management and employees in terms of reward system has an average mean value of 3.89. This illustrates that the company encourages the teamwork jobs and rewards employees on tasks from this sort. Also, it indicates that the company adopts rewards systems to enhance the KS among employees.

Table 7 The Mean Perceptions of Organizational Culture in terms of Reward

<b>Indicators</b>	<b>Mean</b>	<b>Level</b>
1. Employees are rewarded for sharing their knowledge and experience with their colleagues.	3.97	High
2. The KS rewards available are effective in motivating staff to spread their knowledge.	3.85	High
3. Employees are more likely rewarded on teamwork and collaboration rather than merely on individual performance.	3.85	High
<b>Total</b>	<b>3.89</b>	<b>Agree</b>

It can also be also be noticed in Table 7 that the highest mean goes to item No.1 “Employees are rewarded for sharing their knowledge and experience with their colleagues”. Furthermore, the other two statements indicate high means which are above 3.80. In addition, participants high mean scores indicated that all items in the reward variable could enrich the KS practices in AGC to achieve the expected objectives.

## CONCLUSION

The need for implementation of KM practices, particularly KS is imperative in modern organizations. The sharing of knowledge between employees and departments in organizations is necessary to transfer individual and group knowledge into organizational knowledge, which leads to effective management of knowledge.

The results of this study indicate that there is a need to consider cultural attributes which influence KS practices. This involves not only the attempt to understand organizational culture but also to enhance certain cultural attributes that can support successful implementation of KS. This means that successful KS should go beyond the operational side into social, human and organizational aspects towards KM implementation and KS practices.

The study concludes that cultural elements, namely trust, communication between staff, leadership and rewards system all received strong literature support and found to be significant for KS in the AGC.

Based on the results of this study, some cultural changes should be introduced. These changes might include promoting KS through the fostering of a reward culture, promoting a trust environment, supporting communications network that operate freely, where knowledge providers and knowledge seekers can access knowledge in the organization through the shortest path.

However, management of AGC should realize that KS theories that have been applied in other cultural settings might not be necessarily successful for AGC culture due to cultural differences that enforce certain organizational characteristic. Therefore, managers and decisions makers have to consider the uniqueness of the culture of their organization.

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