

Development and Validation of a Readiness for Knowledge Management Implementation Questionnaire (RKMIQ)

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Abstract: The purpose of this study was to identify the psychometric properties of a Readiness for Knowledge Management Implementation Questionnaire (RKMIQ) administered to State Audit Institution (SAI) Employees. This study explored the level of readiness for knowledge management (KM) process implementation in SAI. The dimensional structure of the questionnaire was investigated with a sample of 170 SAI employees (70% males and 30% females). Based on factor analysis results, the questionnaire emphasized sixteen factors categorized in five themes: organization culture, organization structure, information technology (IT) infrastructure, employees' acceptance of KM, and employees' intention to be involved in the KM process. The internal consistency and concurrent validity of RKMIQ were verified (Cronbach's alpha = 0.95). RKMIQ and its factors were significantly correlated with factors influencing the KM initiatives questionnaire (FIKMIQ). Testing of the reliability of RKMIQ using Test-Re-Test method revealed a significant correlation of (0.96) between the two applications. This questionnaire was proved to be relatively reliable and valid. The results showed that SAI is ready for KM process implementation. Since it is essential to assess organizational readiness for KM before embarking on KM initiatives, this study designed an instrument that brings together organizational and human factors influencing the readiness of organizations for KM. The comprehensiveness of the instrument, as well as the degree of validity and reliability that it demonstrated, justifies its adoption to measure the readiness of organizations to implement KM processes.

Key words: knowledge management; implementation; readiness; instrument; State Audit Institution; Oman JEL code: M

1. Introduction

Knowledge is the factor that enables the organization to work effectively. In other words, it can lead to the organization making good decisions in different aspects such as strategies and products (Davenport and Prusak, 1998). Ghorbani (2016) pointed out that knowledge is a major component of success for different organizations. Uriarte (2008), meanwhile, argued that organizations should pay close attention to knowledge since it is more important than other assets such as land, labor, and capital. Nejadhussein and Zadbakht (2011) highlighted that knowledge can be a very important resource in helping organizations to achieve their goals and objectives if it is

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managed effectively. Furthermore, Nonaka and Takeuch (1995) claimed that organizations can be successful if they are capable of creating new knowledge, disseminating it, and embodying it in their products and services. They indicated that creating new knowledge fuels innovation. Arabshahi et al. (2013) affirmed the significance of knowledge as an asset that organizations need to nurture and manage carefully.

In practice, KM entails identification of intellectual assets, generating new knowledge for the purpose of competitive advantage, making common information accessible, sharing the best practices, and employing technology to achieve these objectives (Barclay & Murray, 1997).

There are various definitions relating to this research topic. Uriarte (2008, p. 24) provided a very simple definition of KM, describing it as "the conversion of tacit knowledge into explicit knowledge and sharing it within the organization". He phrased this definition more technically by defining KM as "the process through which organizations generate value from their intellectual and knowledge based assets" (Uriate, 2008, p. 24).

According to Nejadhussein and Azadbakht (2011), KM is one of the solutions to assist organizations in avoiding failure, meeting challenges, as well as enhancing learning competencies. They argued that the essential first step before starting any KM application is to determine the organization's readiness.

Readiness is a condition for any organization that intends to implement the KM process. Razi & Abdul Karim (2010, p. 323) defined readiness for KM process implementation as "the intention to be involved in the KM process by the organizational individuals within the prevailing organizational context".

Surprisingly, most studies on organizational readiness for KM seem to focus on organizational aspects, by examining the impact of different factors such as culture on organizational readiness for KM implementation. However, this study argues that to enable the organization to implement and benefit fully from KM, organizational readiness for KM implementation should be defined as a willingness of organizational members to be involved in the KM process supported by an appropriate organizational culture, structure and IT infrastructure as well as employees' acceptance of KM.

2. Objective

The present study aims to develop an instrument which measures the readiness of organizations to implement KM. Furthermore, it aims to establish the reliability and measurement validity of this instrument.

3. Literature Review

Many studies have developed scales to measure organizational readiness for KM and examine factors influencing KM initiatives (e.g., Sivan, 2000; Holt et al., 2007; Mohammadi et al., 2009; Razi & Abdul Karim, 2010; Al-Bastaki & Shajera, 2012; Kamaruzzaman et al., 2016; Patil, 2016).

In Israel, Sivan (2000) proposed an analytic framework for organizations to plan, implement, and evaluate their KM activities. He argued that organizations need to practice KM in order to fulfil their vision. This KM is based on a knowledge infrastructure. The results revealed that the knowledge infrastructure includes culture, technology, processes, users, switchboard, services, value, design, and premises.

In order to measure the readiness of an Air Force agency to implement KM, Holt et al. (2007) browsed the literature to develop an appropriate instrument. It was designed to determine the employees' thoughts regarding their readiness for change. A questionnaire was devised that consisted of 83 items divided into five subscales representing the following facets of KM readiness: individual measures, context measures, content measures,

process measures, and KM attitudes. The study aimed to investigate the relationship between KM attitudes and these facets. The questionnaire was completed by 146 civilian and military personnel of various grade levels, with results reflecting that their attitudes towards KM exhibited strong relationships with the majority of the individual, context, content and process variables. For instance, pessimism was positively related to individual characteristics including negative affect, innovativeness and negatively related with other individual, context, content and process variables. Furthermore, the results reflected a negative relationship between affective commitment, which measured the participants' commitment to supporting KM initiatives, and negative affect and innovativeness respectively. Meanwhile, respondents' attitudes were positively related with all other study variables. Finally, the results revealed that the individual and context variables — which are deeply rooted in the organization's fabric — are influential and difficult to change.

A more holistic study was conducted by Mohammadi et al. (2009) in their assessment of the readiness of an IT firm in Iran. They devised a questionnaire consisting of 92 statements based on eighteen success factors extracted from the literature. The factors were categorized into the following five groups: culture of knowledge (trust, open leadership climate, learning from failure, and a culture of altruism), structure (centralization, formalization, and teamwork), support for change (education, management support, participation, reward system), infrastructure (quality of information, information system infrastructure accessibility, verbal skills, and T-shape), and vision for change (benefit, appropriateness, and discrepancy). They found that infrastructure and culture of knowledge scored highest on readiness, with all of the measures for these two groups recording high scores. Meanwhile, medium scores were recorded according to some measures for the other three groups (such as education, management support, and reward system). Therefore, attention should be paid to these aspects in order to achieve readiness for KM. The study suggested that more focus should be given to people and culture because many KM projects that had solely emphasized technology had failed.

Razi et al. (2009) present a model that integrated KM infrastructure and unified theory of acceptance and use of technology (UTAUT). The research model considered both organizational and individual factors. It was intended to enable organizations to assess their readiness for KM process implementation as well as identifying its contributing factors. This model was then developed into a more holistic model by Razi & Abdul Karim (2010). They stressed that the implementation of the KM process requires appropriate infrastructure. KM infrastructure should include supportive organizational culture, organizational structure, and IT infrastructure. In addition, they indicated that the perceptions of organizational members should be assessed. This study was considered by Al-Bastaki & Shajera (2012) and Shahidi et al. (2015) as one of the key studies on organizational readiness for implementation of KM.

A study based in the Gulf States that explored factors affecting organizational readiness for KM was conducted by Al-Bastaki & Shajera (2012). They examined the readiness of three aspects of KM infrastructure, namely, organizational culture, structure, and IT infrastructure within the University of Bahrain. They reviewed the literature to develop a research model and devised a questionnaire that was filled in by (100) employees at different levels. The results revealed that all of the seven variables, namely, collaboration, trust, learning, centralization, formalization, rewards systems, and IT support are significant and need to be promoted by the university. The findings indicated that such promotion would require changes to the university's culture and structure. In addition, the results reflected a high to medium readiness level for two variables, namely, IT support and reward system, while a medium to low level of readiness was indicated for the other five variables. The study suggested several ideas for promoting KM infrastructure at the university, for example, promotion of trust and

collaboration as well as shifting from a hierarchal to a horizontal structure.

Shahidi et al. (2015) assessed organizational readiness for KM implementation in general and examined whether different organizations were affected by six factors identically in specific. The factors were classified into six groups, namely, organizational culture, individual, IT infrastructure, knowledge process, strategy, and senior management commitment. Their review of the literature indicated that most of the key studies tried to either extract the contributing factors influencing the implementation of KM or to assess organizational readiness for implementation. Based on that literature they developed a research model and an instrument. The partial least squares method was used for measurement, model, as well as validity of the questionnaire analysis. They tested six hypotheses, assuming that the six factors would have effects on organizational readiness for KM implementation in three different organizations representing IT services, education and commerce. Not all of these organizations have so far implemented KM systems. The results revealed that the effect of culture was rejected in all organizations, while IT infrastructure and senior management commitment effect was confirmed in the educational and commerce organizations. It was found that those two factors had a negative effect on the IT organization. Moreover, the results indicated that the knowledge process had an effect on the commerce organization, while it had negative effects on the other two organizations. The negative effect was due to the lack of documented processes and procedures to access the required knowledge as well as a lack of knowledge workers. In addition, the results indicated that the individual had an effect on the educational organization, whilst its effect was rejected for the other two organizations. Finally, the study suggested that organizations should promote employees' technical skills in the use of information systems through classes and workshops.

One of the most recent studies to investigate KM initiatives and factors impacting these initiatives was conducted by Patil (2016). Through review of the literature a structured questionnaire was developed that consisted of (38) statements measured on a 5 point Likert scale. Drawing on an overview of twenty previous studies which showed that organizational culture, particularly trust and collaboration, as well as ICT influence KM initiatives, a descriptive research design was followed to explore the impact of four factors, namely, management initiatives, organizational culture, ICT adoption and employee participation in KM initiatives. The results revealed that all four factors have positive impacts on KM initiatives. In addition, they indicated that management initiatives including motivation, support of subordinates, training programs, and dynamic reallocation of resources and absence of bureaucracy were major factors in fostering KM in the business schools studied. Meanwhile, ICT implementation was found to enable knowledge transfer and sharing among stakeholders. Furthermore, employees' participation in cross functional teams in order to exchange ideas was found to enhance their creative thinking, which can have a great positive impact on KM initiatives. Finally, the study recommended that schools develop an overall organizational culture of socialization, externalization, combination, and internalization of both tacit and explicit knowledge.

However, the current study argues that measuring the readiness of organizations for KM should take into account two main aspects. First, it is necessary to consider organizational factors such as organization culture, structure, and IT infrastructure; second, employees' expectations of KM, and their willingness to be involved in the KM process. Therefore, this study aims to develop a questionnaire covering both aspects in order to measure the readiness of SAI for KM process implementation.

4. Methodology

4.1 Sample

Table 1 shows that the sample of this study comprised (170) employees in SAI. It included 70% males, and 30% females, 71.7% have less than seven years of experience, 16.4% have from seven to fourteen years, and 11.7% more than fourteen years of experience. The sample was drawn randomly from 535 employees from different units at SAI.

| Condor | Nature of Work | | | | | | Tatal | |
|-------------------------------|----------------|---------|-----------------------|-----------------------------|----|-------|-------|--------|
| Auditor engaged in field work | | Auditor | engaged in field work | Administrator or Technician | | Total | | |
| | Ν | % | Ν | % | N | % | Ν | % |
| Male | 62 | 36.5% | 21 | 12.4% | 36 | 21.2% | 119 | 70.0% |
| Female | 25 | 14.7% | 9 | 5.3% | 17 | 10.0% | 51 | 30.0% |
| Total | 87 | 51.2% | 30 | 17.6% | 53 | 31.2% | 170 | 100.0% |

 Table 1
 Distribution of the Sample by Gender and Nature of Work

4.2 Instruments and Procedures

The questionnaire was developed based on browsing of the available studies in the area of measuring organizational readiness for KM. It mainly relies on the research model proposed by Razi & Abdul Karim (2010), with some modifications made in line with the requirements of the current study. Below is a description of the instrument along with its administration procedures.

4.3 Readiness for Knowledge Management Implementation Questionnaire (RKMIQ)

The questionnaire to explore the readiness of SAI for KM process implementation was tested by 14 referees from the Department of Information Studies at the College of Art and Social Sciences, the Department of Psychology, Department of Educational Foundation and Administration, and the Department of Curriculum and Instruction at the College of Education, the Department of Management, and the Department of Accounting at the College of Economics and Political Sciences in Sultan Qaboos University (SQU), the Head of the Planning Office, and the Director of Information Technology at SAI. Respondents express their agreement with each statement using a 5-point Likert-type scale that ranges from 1 = strongly disagree (Mean, 1 - 1.79) to 5 = strongly agree (Mean, 4.20 -5). The questionnaire focuses on three themes: efficiency of KM enablers in SAI, employees' acceptance of KM, and employees' intention to be involved in the KM process, as follows:

4.4 Efficiency of KM Enablers in SAI

The purpose of this part of the questionnaire is to identify the levels of efficiency of KM enablers in SAI from the perspectives of employees. It focuses on the following three enablers:

- Organization culture. The employees were asked about thirty one items. Five items were intended to identify the level of collaboration among SAI employees. Trust as a factor was measured by five items (e.g., "I believe colleagues will not attribute to themselves the knowledge I share with them"). Six items related to learning, five to business strategy, five to management support, and five items to rewards (e.g., "SAI adopts a system that motivates staff to take initiatives and generate ideas").
- 2) Organization structure. Employees were asked about their perceptions on eight items relating to two factors of SAI structure. First, Decentralization was measured by four items (e.g., "I can make decisions regarding my own responsibilities without having to obtain approval from my immediate supervisor").

The second factor, Informality, was measured by four items (e.g., "I can initiate and adopt my own procedures to perform my own tasks").

3) IT infrastructure. The two factors of this enabler were measured by eight items. Four items were used to measure IT support (e.g., "SAI provides support and suitable technical facilities needed to make information accessible all the time"), while ICT use was measured by another four items (e.g., "I use databases provided by SAI to search topics related to my work").

4.5 Employees' Acceptance of KM

The purpose of this part of the questionnaire is to identify the employees' acceptance of KM as one of the human factors related to organization readiness for KM implementation. Four items were used to measure employees' performance expectancy of KM (e.g., "I think creating and sharing knowledge would help me to perform better and with less effort"), while another four items were used to measure effort expectancy of KM (e.g., "I do not expect to face obstacles in learning the applications for creating and sharing knowledge").

4.6 Employees' Intention to Be Involved in KM Process

The purpose of this part is to identify the willingness of employees to be involved in the four modes of knowledge conversion developed by Nonaka and Takeuchi in 1995. Socialization, "the conversion of knowledge from tacit into tacit", was measured by five items (e.g., "I intend to be involved in seminars and brainstorming sessions held to make decisions related to my work"). Four items were used to identify employees' intention to be involved in the process of converting knowledge from tacit into explicit "externalization" (e.g., "I intend to be involved in preparing training program guides related to the implementation of my tasks"). Combination, "the process of converting knowledge from explicit", was measured by five items (e.g., "I intend to be involved in using information systems for the purpose of gathering knowledge related to my work"). The last four items were used to identify the employees' willingness to be involved in internalization that consists of "the conversion of knowledge from explicit into tacit" (e.g., "I intend to become acquainted with the websites of specialized professional organizations related to my work").

5. Results

5.1 Descriptive Statistics

This study measured the readiness of SAI for KM process implementation by identifying three main aspects: first, the efficiency of KM enablers; second, employees' acceptance of KM; and third, employees' intention to be involved in the KM process as shown in Table 2. The results indicate that the highest mean (4.06) was recorded for employees' intention to be involved in the KM process, with all of its factors scoring highly. This result indicates that the employees have good willingness to be involved in the KM process. In addition, the results revealed that employees have high expectation of KM in terms of their performance and they expect that the effort involved in learning and implementing KM will not be high. Finally, among the KM enabling factors, reward and informality had average scores below 3.39, whereas the other factors were efficient according to employees' perceptions. As a result, it is found that SAI is ready for KM process implementation. It is suggested that a reward system should be promoted and procedures should be revised to support informality.

| Themes | Mean | SD | Sub-themes | Mean | SD | Factors | Means | SD |
|-------------------------|------|-----|----------------|------|-----|---------------------------------|-------|--|
| | | | | | | Collaboration | 3.86 | .55 |
| | | | | | | Trust | 3.89 | .55 |
| | | | Organization | | | Learning | 3.44 | SD .55 .55 .77 .66 .65 .70 .73 .69 .75 .74 .60 .64 .60 .64 |
| | | | Culture | 3.62 | .44 | Business strategy | 3.61 | .66 |
| KM 3.5 | 3.55 | .43 | | | | Management support | 3.57 | .65 |
| enablers | | | | | | Reward | 3.36 | .70 |
| | | | Organization | 2.26 | 62 | Decentralization | 3.42 | .73 |
| | | | structure | 5.50 | .03 | Informality | 3.31 | .69 |
| | | | IT | 2 19 | 60 | IT support | 3.45 | .75 |
| | | | infrastructure | 5.40 | .09 | ICT use | 3.51 | .75 |
| Employees' | 2.00 | 52 | | | | Performance expectancy of KM | 4.18 | .60 |
| of KM | 3.96 | .52 | | | | Effort expectancy of KM | 3.74 | .64 |
| | | | | | | Socialization | 4.17 | .60 |
| Employees' intention to | 4.06 | 54 | | | | Externalization | 3.95 | .67 |
| be involved | 4.00 | .34 | | | | Combination | 3.97 | .64 |
| | | | | | | internalization | 4.16 | .60 |

| Table 2 | The Means and std. | Deviation of Factors | Influencing SAI | Readiness for KN | I Process Implementation |
|---------|--------------------|-----------------------------|-----------------|-------------------------|--------------------------|
|---------|--------------------|-----------------------------|-----------------|-------------------------|--------------------------|

5.2 Validity Findings

In this study, the following three methods were used to assess the validity of the Readiness for Knowledge Management Implementation Questionnaire (RKMIQ):

5.2.1 Factor Analysis

Principal component factor analysis was used to determine the potential groupings of the five themes of the questionnaire. Varimax rotation was used to better account for expected correlations among potential factors.

For the first theme (organization culture), six factors emerged with eigenvalues greater than 1.0, explaining 59.78 % of the total variance (Table 3). The first factor was "collaboration". This consisted of five items reflecting how employees collaborate with each other. This factor had an eigenvalue of 4.40 and explained 14.20 % of the total variance. The second factor was "trust", which had an eigenvalue of 4.27 and explained 13.80 % of the total variance. The third factor was "learning", which had an eigenvalue of 3.02 and explained 9.74 % of the total variance. The fourth factor was "business strategy", which had an eigenvalue of 2.80 and explained 9.04 % of the total variance. The fifth factor was "management support", which had an eigenvalue of 2.67 and explained 8.62 % of the total variance. Finally, the sixth factor was "reward", which had an eigenvalue of 1.35 and explained 4.35 % of the total variance.

| Table 3 | Factor Analys | is of the First T | Theme (Orga | nization Cultur | ·e) | |
|--------------------|---------------|--------------------------|-------------|-----------------|-------|-------|
| Items No. | | |] | Factors | | |
| Items No. | 1 | 2 | 3 | 4 | 5 | 6 |
| Q1 | .638 | | | | | |
| Q2 | .703 | | | | | |
| Q3 | .732 | | | | | |
| Q4 | .479 | | | | | |
| Q5 | .571 | | | | | |
| Q6 | | .351 | | | | |
| Q7 | | .657 | | | | |
| Q8 | | .727 | | | | |
| Q9 | | .655 | | | | |
| Q10 | | .522 | | | | |
| Q11 | | | .781 | | | |
| Q12 | | | .529 | | | |
| Q13 | | | .711 | | | |
| Q14 | | | .731 | | | |
| Q15 | | | .744 | | | |
| Q16 | | | .829 | | | |
| Q17 | | | | .661 | | |
| Q18 | | | | .691 | | |
| Q19 | | | | .734 | | |
| Q20 | | | | .460 | | |
| Q21 | | | | .648 | | |
| Q22 | | | | | .402 | |
| Q23 | | | | | .785 | |
| Q24 | | | | | .780 | |
| Q25 | | | | | .717 | |
| Q26 | | | | | .551 | |
| Q27 | | | | | | .706 |
| Q28 | | | | | | .614 |
| Q29 | | | | | | .894 |
| Q30 | | | | | | .807 |
| Q31 | | | | | | .578 |
| Eigenvalue | 4.405 | 4.279 | 3.021 | 2.804 | 2.675 | 1.350 |
| Variance (59.78 %) | 14.208 | 13.802 | 9.744 | 9.046 | 8.629 | 4.355 |

For the second theme (organization structure), two factors emerged with eigenvalues greater than 1.0, explaining 58.92% of the total variance (Table 4). The first factor was "decentralization", which had an eigenvalue of 2.45 and explained 30.67% of the total variance. The second factor was "informality", which had an eigenvalue of 2.26 and explained 28.25% of the total variance.

| | | , |
|--------------------|--------|--------|
| Items No. | Fac | tors |
| Items No. | 1 | 2 |
| Q32 | .778 | |
| Q33 | .748 | |
| Q34 | .822 | |
| Q35 | .567 | |
| Q36 | | .761 |
| Q37 | | .723 |
| Q38 | | .635 |
| Q39 | | .723 |
| Eigenvalue | 2.454 | 2.260 |
| Variance (58.928%) | 30.673 | 28.255 |

 Table 4
 Factor Analysis of the Second Theme (Organization Structure)

For the third theme (IT infrastructure), two factors emerged with eigenvalues greater than 1.0, explaining 64 % of the total variance (Table 5). The first factor was "IT support", which had an eigenvalue of 2.93 and explained 36.73 % of the total variance. The second factor was "ICT use", which had an eigenvalue of 2.18 and explained 27.27 % of the total variance.

| Hanna Ma | Fac | tors |
|--------------------|--------|--------|
| Items No. | 1 | 2 |
| Q40 | .782 | |
| Q41 | .641 | |
| Q42 | .676 | |
| Q43 | .825 | |
| Q44 | | .739 |
| Q45 | | .664 |
| Q46 | | .834 |
| Q47 | | .694 |
| Eigenvalue | 2.938 | 2.182 |
| Variance (64.009%) | 36.730 | 27.279 |

 Table 5
 Factor Analysis of the Third Theme (IT Infrastructure)

For the fourth theme (employees' acceptance of KM), Two factors emerged with eigenvalues greater than 1.0, explaining 69.43% of the total variance (Table 6). The first factor was "performance expectancy of KM", which had an eigenvalue of 2.96 and explained 37% of the total variance. The second factor was "effort expectancy of KM", which had an eigenvalue of 2.59 and explained 32.43% of the total variance.

For the fifth theme (employees' intention to be involved in KM process according to the questionnaire), four factors emerged with eigenvalues greater than 1.0, explaining 71.65% of the total variance (Table 7). The first factor was "socialization", which had an eigenvalue of 3.76 and explained 20.94% of the total variance. The second factor was "externalization", which had an eigenvalue of 3.33 and explained 18.52% of the total variance. The third factor was "combination", which had an eigenvalue of 3.09 and explained 17.21% of the total variance. Finally, the fourth factor was "internalization", which had an eigenvalue of 2.69 and explained 14.97% of the total variance.

| Itama Na | Fac | tors |
|--------------------|--------|--------|
| items No. | 1 | 2 |
| Q48 | .703 | |
| Q49 | .920 | |
| Q50 | .837 | |
| Q51 | .831 | |
| Q52 | | .782 |
| Q53 | | .710 |
| Q54 | | .859 |
| Q55 | | .743 |
| Eigenvalue | 2.960 | 2.595 |
| Variance (69.433%) | 37.001 | 32.432 |

| Table 6 | Factor Analysis of the Fourth | Theme (Employees | 'Acceptance of KM) |
|---------|-------------------------------|------------------|--------------------|
|---------|-------------------------------|------------------|--------------------|

| Table 7 | Factor Analysis of the Fifth Them | e (Employees' Intention | to Be Involved in KM Process) |
|---------|-----------------------------------|-------------------------|----------------------------------|
| Table / | ractor Analysis of the rith rith | e (Employees Intention | to be involved in Kivi i rocess) |

| Hanna Na | | Factors | | |
|--------------------|--------|---------|--------|--------|
| Items No. | 1 | 2 | 3 | 4 |
| Q56 | .809 | | | |
| Q57 | .817 | | | |
| Q58 | .661 | | | |
| Q59 | .640 | | | |
| Q60 | .658 | | | |
| Q61 | | .831 | | |
| Q62 | | .862 | | |
| Q63 | | .504 | | |
| Q64 | | .525 | | |
| Q65 | | | .666 | |
| Q66 | | | .588 | |
| Q67 | | | .535 | |
| Q68 | | | .725 | |
| Q69 | | | .587 | |
| Q70 | | | | .577 |
| Q71 | | | | .708 |
| Q72 | | | | .633 |
| Q73 | | | | .756 |
| Eigenvalue | 3.769 | 3.334 | 3.098 | 2.696 |
| Variance (71.651%) | 20.941 | 18.522 | 17.213 | 14.975 |

5.2.2 Concurrent Validity

The instrument developed by Patil (2016) was used to test the concurrent validity of the present study's questionnaire. This instrument was selected for two reasons. First, it measures readiness for KM implementation considering the most important contributing factors, namely, top management initiatives, organizational culture, ICT adoption and employee participation, which are more or less similar to the factors in the present study's instrument. Second, it was also chosen because of its high level of validity and reliability. Below is a description of this questionnaire.

The questionnaire was designed to investigate knowledge management initiatives and study factors that have an impact on knowledge management initiatives. It consists of 38 items divided into four subscales: management initiatives, organizational culture, ICT adoption and employee participation. Respondents express their agreement with each statement using a 5-point Likert-type scale that ranges from 1 = strongly disagree to 5 = strongly agree. The internal-consistency (Cronbach's alpha) test result was greater than (0.60). The instrument was translated into Arabic and reviewed by English language professionals from the English Department at the College of Arts and Social Sciences in SQU.

The present study's questionnaire and Patil's questionnaire were distributed to the sample and were safely returned. To examine the concurrent validity for the present study's questionnaire, the researchers correlated the respondents' mean scores. The results revealed a significant correlation of 0.82 between the present study's questionnaire and the criterion validity questionnaire (Table 8).

| Present study's Questionnaire | Correlations with Patil's Questionnaire |
|---|---|
| Organizational Culture | 0.78** |
| IT infrastructure | 0.50** |
| Employees' intention to be involved in KM process | 0.40** |
| Top Management Support | |
| The whole questionnaire | 0.82** |

 Table 8 Concurrent Validity of the Present Study's Questionnaire

5.2.3 Internal Validity

Pearson's Correlation was used to test the correlations between the present study's themes. The results revealed that there is a significant correlation between the five themes of the questionnaire and the whole score, (Table 9). Furthermore, a significant correlation was found between each theme and its sub-themes (Table 10).

| Present study's Questionnaire | r |
|---|---------|
| Organizational Culture | 0.863** |
| Organizational Structure | 0.694** |
| IT infrastructure | 0.626** |
| Employees' Acceptance of KM | 0.785** |
| Employees' intention to be involved in KM process | 0.608** |

 Table 9
 Internal Validity of the Present Study's Questionnaire

**. Correlation is significant at the 0.01 level (2-tailed).

Table 10 Internal validity of the present study questionnaire's themes, sub-themes, and factors

| Present study Questionr themes | Factors of present study Questionnaire | | | | | |
|---|--|-----------------|----------|-------------------------|------------------------|---------|
| Organizational culture | Collaboration | Trust | Learning | Business strategy | Top management support | Reward |
| r | 0.785** | 0.712** | 0.769** | 0.821** | 0.706** | 0.630** |
| Organizational structure | Decentralization | | | Informal | | |
| r | 0.896** | | | 0.883** | | |
| IT infrastructure | IT Support | | | ICT Use | | |
| r | 0.928** | | | 0.890** | | |
| Employees' acceptance of KM | Performance expectancy of KM | | | Effort expectancy of KM | | |
| r | 0.787** | | | 0.856** | | |
| Employees' intention to be involved in KM process | Socialization | Externalization | | Combination | Internalization | |
| r | 0.837** | 0.837 | ** | 0.922** | 0.820** | |

**. Correlation is significant at the 0.01 level (2-tailed).

5.3 Reliability Findings

To address the issue of reliability two methods were used: Test-retest reliability and Cronbach's alpha. Below is a description of these indices.

5.3.1 Test-Re-Test Reliability

The reliability of the present study's questionnaire was tested using the test-re-test method, involving a sample of (170) employees. It is worth noting that the questionnaire was administered to employees and repeated two weeks after the first administration, and then the researchers correlated respondents' mean scores obtained in the first and second sessions. The results revealed a significant correlation of 0.96 between the two applications of the present study's questionnaire (Table 11).

| Present study's Questionnaire | Test-Re-Test Reliability Coefficient |
|---|--------------------------------------|
| Organizational Culture | 0.96** |
| Organizational Structure | 0.86** |
| IT infrastructure | 0.90** |
| Employees' Acceptance of KM | 0.46** |
| Employees' intention to be involved in KM process | 0.83** |
| The whole questionnaire | 0.96** |

 Table 11
 Test-Re-Test Reliability of the Present Study's Questionnaire

Note: ******p < .01.

5.3.2 Internal Consistency Reliability

The reliability of the present study's questionnaire was tested using Cronbach's alpha coefficient. The Cronbach's alpha coefficient was 0.95, indicating that the present study's questionnaire had high internal consistency (Table 12).

| Present study's Questionnaire | Cronbach's alpha Coefficient |
|--|------------------------------|
| Organizational Culture | 0.95 |
| Collaboration | 0.80 |
| • Trust | 0.79 |
| • Learning | 0.89 |
| Business Strategy | 0.85 |
| • Top Management Support | 0.82 |
| • Reward | 0.84 |
| Organizational Structure | 0.84 |
| • Decentralization | 0.79 |
| • Informality | 0.75 |
| IT infrastructure | 0.84 |
| • IT Support | 0.79 |
| | 0.72 |
| Employees' Accentance of KM | 0.81 |
| Derformance expectancy of KM | 0.81 |
| Ferrormance expectancy of KM | 0.81 |
| • Enort expectancy of KM | 0.93 |
| Employees intention to be involved in KM process | 0.87 |
| • Socialization | 0.79 |
| • Externalization | 0.84 |
| Combination | 0.86 |
| Internalization | |
| The whole questionnaire | 0.95 |

Table 12 Internal Reliability of the Present Study's Questionnaire

6. Discussion

The main purpose of this study was to check and test the validity and reliability of a Readiness for Knowledge Management Implementation Questionnaire (RKMIQ) developed for use in SAI. The validity of the RKMIQ scores was tested using three methods. First, the factor analysis of the RKMIQ indicated that the seventy three items loaded on sixteen factors, ten of which were KM enablers, two related to employees' acceptance of KM, and four to employees' intention to be involved in KM process. Second, the finding that the RKMIQ scores significantly associated with the FIKMIQ scores lends support for the concurrent validity of the RKMIQ. Finally, the internal validity was tested using Pearson's Correlation to test the correlations between the present study's themes. The results revealed a significant correlation between the five themes of the questionnaire and the score for the whole questionnaire. Furthermore, a significant correlation was found between each theme and its sub-themes.

In addition, the reliability estimates for the RKMIQ scores were calculated using two methods: test-retest reliability and Cronbach's alpha. The RKMIQ was both internally consistent (Cronbach's 0.95%) and reliable across a 2-week time period (0.96). According to these results, the psychometric properties of the RKMIQ were felt to be promising.

On the other hand, the review of the literature in the area of organizational readiness for KM showed that the successful implementation of KM is influenced by many factors. Some of these factors are organizational factors, whereas others are of human nature. Some studies focused in the impact of organizational factors, namely culture, structure, and IT infrastructure (Sivan, 2000; Mohammadi et al., 2009; Albastaki & Shajera, 2012; Patil, 2016), whereas others indicated that the individual factors have more impact (Holt et al., 2007; Razi et al., 2009; Shahidi et al., 2015).

7. Conclusion

The review undertaken by this study of the literature in the area of organizational readiness for KM showed that the successful implementation of KM is influenced by many factors. Some of these factors are organizational factors, whereas others are human in nature. Therefore, organizations need to investigate the impact of these different factors on their KM practices. It was argued that readiness is a condition for any organizational members to implement the KM process. The present study defines readiness as the willingness of organizational members to be involved in the KM process supported by an appropriate environment. Therefore, this study developed a questionnaire to measure SAI's readiness for KM process implementation. The study's findings are useful for various parties, such as policy makers at SAI, employees, and researchers. The results of this study may contribute to enhancing KM in SAI by identifying SAI's readiness level for implementation of the KM process, determining KM enablers, formulating KM process implementation strategies, and creating the appropriate atmosphere among the staff to enhance their intention to be involved in the KM process. Finally, researchers could utilize the factors influencing their intention to be involved in KM process.

8. Future Research Direction

The purpose of this study was to identify the psychometric properties of a Readiness for Knowledge Management Implementation Questionnaire (RKMIQ) developed for use in SAI. Future research in this area could be conducted to answer the following questions, using similar populations in public or private organizations in Gulf Countries in particular and in Arab countries in general:

1) Is there a significant relationship between the employees' intention to be involved in the KM process and the following variables?

A. KM enablers

B. Employees' acceptance of KM

2) Are there significant differences in the employees' performance and effort expectancy of KM related to the following Demographic variables (Gender, Work experience, Qualification)?

3) Are there significant differences in the employees' intention to be involved in the KM process related to the following Demographic variables (Gender, Work experience, Qualification)?

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