



Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication
of the Informing Science Institute
InformingScience.org

IJIKM.org

Volume 13, 2018

INVESTIGATING KNOWLEDGE ACQUISITION AMONG FACULTY MEMBERS

Abdoulaye Kaba*	Al Ain University of Science and Technology, Al Ain, United Arab Emirates	Kaba.abdoulaye@aau.ac.ae
Chennupati K. Ramaiah	Pondicherry University, Puducherry, India	ckramaiah.lis@pondiuni.edu.in

* Corresponding author

ABSTRACT

Aim/Purpose	This study investigates the issue of knowledge acquisition among faculty members.
Background	The paper reports the use of knowledge acquisition tools and reading knowledge sources by faculty members. It also identifies demographic differences among participants in using knowledge acquisition tools and reading knowledge sources.
Methodology	The study used an online survey-based questionnaire tool for data collection. The participants consisted of 300 faculty members from 26 academic institutions in UAE. Statistical tests are used to verify and validate the hypotheses.
Contribution	The paper represents one of the few empirical studies conducted on knowledge acquisition among faculty members in the GCC countries. Findings of the study may contribute to the theoretical and practical understanding of knowledge acquisition among faculty members.
Findings	Findings of the study revealed that medical faculty members read knowledge acquisition sources more than other faculty members. Likewise, IT faculty members use knowledge acquisition tools more than other faculty members. Results of the study supported stage three of knowledge acquisition proposed in the “Stage Theory of Knowledge Consumption Growth” (Mathew, 1985). The study found that journals are the most sources read by the participants while web-based training (WBT) tools are the most used knowledge acquisition tools among faculty members. Results of the study indicated significant differences among faculty members of different age groups, academic ranks, academic specializations, and institutional affiliation in reading knowledge sources. Likewise, findings of the study revealed significant difference among participants of different academic specializations in using knowledge acquisition tools.

Accepted by Editor June Lu | Received: June 9, 2017 | Revised: August 31, October 8, December 29, 2017, January 12, 2018 | Accepted: January 20, 2018.

Cite as: Kaba, A., & Ramaiah, C. K. (2018). Investigating knowledge acquisition among faculty members. *Interdisciplinary Journal of Information, Knowledge, and Management*, 13, <https://doi.org/10.28945/3940>

(CC BY-NC 4.0) This article is licensed to you under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/). When you copy and redistribute this paper in full or in part, you need to provide proper attribution to it to ensure that others can later locate this work (and to ensure that others do not accuse you of plagiarism). You may (and we encourage you to) adapt, remix, transform, and build upon the material for any non-commercial purposes. This license does not permit you to use this material for commercial purposes.

Recommendations for Practitioners	Results of the study could be extrapolated to other faculty members in the GCC countries.
Recommendation for Researchers	More research could be done to address different issues of knowledge acquisition among faculty members.
Impact on Society	Faculty reading of knowledge sources and use of knowledge acquisition tools may have direct or indirect positive impacts on innovation, creativity, and research productivity in any society.
Future Research	It will be interesting to apply more than one data collection method in the future research.
Keywords	knowledge, knowledge sources, knowledge acquisition tools, faculty members, universities, colleges, UAE

INTRODUCTION

As human beings, our need for knowledge is boundless and unbounded. Identification, selection, acquisition, and creation of knowledge are ongoing activities for human beings. We acquire knowledge from different sources and places for undertaking a variety of works and tasks for day-to-day life. This is because acquiring knowledge enlightens us and helps us in making wise decisions, discovering a new phenomenon, developing new approaches as well as techniques and technologies, and modifying existing knowledge and theories. Moreover, knowledge acquisition plays a vital role in shaping human thinking and character building. The tremendous growth of technological advancements and the rapid changes in the modern world have increased awareness about the importance of appropriate knowledge acquisition and production (Abdoulaye & Majid, 2000).

However, acquiring knowledge can be very challenging if not impossible in the absence of appropriate tools and relevant sources. This is because, knowledge tools; such as people, libraries, and information centers, and IT-based knowledge acquisition tools; facilitate access to knowledge sources. Similarly, knowledge sources; such as books, periodicals, and multimedia; contain knowledge needed by knowledge seekers. Therefore, reading knowledge sources and using knowledge acquisition tools are essential prerequisites for knowledge acquisition.

IT-based knowledge acquisition tools have revolutionized the way knowledge workers access and acquire knowledge. Nowadays, as stated by Dalkir (2011), e-learning technologies provide support for learning, comprehension, and a better understanding of the new knowledge to be acquired. Adaptive technologies can be used to personalize knowledge content push or pull. Recommender systems can detect similarities or affinities between different types of users and make recommendations for additional content that others have found to be useful to acquire and apply. Knowledge maps and other visualization tools can help to acquire and apply valuable knowledge better.

As knowledge-intensive organizations, universities and colleges are expected to encourage and support knowledge acquisition among faculty members. This can be done with the provision of tools and sources that can be used for knowledge acquisition. As knowledge workers, faculty members are expected to be active users of knowledge acquisition tools and knowledge sources not only for the purpose of teaching but also for research and professional development.

Regardless of the nature of an academic institution, faculty members are continuously involved in activities related to knowledge acquisition. They do that by reading knowledge sources and using knowledge acquisition tools. Our review of the literature indicates a dearth of research on knowledge acquisition among faculty members in the Gulf countries. In fact, the researchers could not identify a single study investigating knowledge acquisition among university professors in UAE. There is a need to investigate reading knowledge sources and the use of knowledge acquisition tools among faculty members in UAE. This is because faculty reading of knowledge sources and use of knowledge acquisition tools may have direct or indirect positive impacts on innovation, creativity, and research productivity in any society.

The main objectives of this study are to investigate knowledge acquisition among faculty members and to verify the stage theory of knowledge consumption growth (Mathew, 1985). The paper also tries to identify differences among faculty members in using knowledge acquisition tools and reading knowledge sources. It attempts to answer two important questions: how some knowledge sources and knowledge acquisition tools are used for knowledge acquisition by faculty members in UAE. The following sections discuss the related studies, methodologies, findings, contributions, and conclusions.

LITERATURE REVIEW

Knowledge has become a commodity (Hall, 1979; Mizen, 2009). Today, governmental and non-governmental organizations invest millions of dollars in knowledge business sectors. Because of its importance, governments are paying much attention to improving and protecting knowledge economy of its society (Kefela, 2010). The level of knowledge in any society will depend on its ability to acquire knowledge (UNESCO, 2005). In this section, we will discuss the concept of knowledge management (KM), knowledge acquisition, in addition to the review of studies invested knowledge sources and knowledge acquisition tools and.

KNOWLEDGE MANAGEMENT (KM)

Knowledge is “understanding of or information about a subject which a person gets by experience or study, and which is either in a person’s mind or known by people generally”; it is “state of knowing about or being familiar with something” (Cambridge University Press, 2008, pp. 796-797).

Knowledge includes experience, values, insights, contextual information, and incorporation of new experiences, and the creation of new knowledge, and so forth (Adenfelt & Lagerström, 2006; Alipour, Idris, & Karimi, 2011; Crompton, 2002). According to Nonaka and Toyama (2003), knowledge is not just a part of reality but it is a reality viewed from different angles.

Knowledge can be active, dynamic, vigorous and progressive (Bhatt, 2000; Birkinshaw & Sheehan, 2002; Salisbury, 2008). However, there are two main types of knowledge: tacit knowledge and explicit knowledge. Tacit knowledge is a form of knowledge retained by people in their head, not recorded, developed from direct experience and action, and usually shared through socialization, and storytelling (Coakes, 2004; Soltero, Valenzuela, Schmitz, Rubio, & Mendez, 2006; Sunassee & Sewry, 2002). On the other hand, explicit knowledge is a kind of knowledge that can be articulated in formal language, recorded and transmitted among individuals (Cheema, 2010; Collins, 2010; Dalkir, 2011).

According to Kaba and Ramaiah (2017, p. 857), “knowledge management is the appropriate application and implementation of knowledge development process. It is about making sure that an organization has an ability to provide all it needs for creating, preserving, disseminating, and using knowledge as needed”. Drucker (1999, p. 157) defined KM as “the coordination and exploitation of organizations knowledge resources, in order to create benefit and competitive advantage”. Dalkir (2011, p. 4) believes that “Knowledge management is the deliberate and systematic coordination of an organization’s people, technology, processes, and organizational structure in order to add value through reuse and innovation. This is achieved through the promotion of creating, sharing, and applying knowledge as well as through the feeding of valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning.”

According to Birkinshaw (2001), KM is a set of techniques and practices that facilitate the flow of knowledge into and within an organization. It is any systematic activity related to support and enhancement of the creation of scientific knowledge and achievement of research goals (Tian, Nakamori, & Wierzbicki, 2009). Bukowitz and Williams (1999) connected KM to tactical and strategic requirements of any organization. They believe that KM addresses the use and enhancement of knowledge-based assets and allow an organization to respond to these issues. Wellman (2009) confines the scope of KM to problems solved and the techniques employed in solving those problems.

One of the important elements in KM is knowledge acquisition. Knowledge acquisition can be applied and implemented throughout the entire process of KM.

KNOWLEDGE ACQUISITION

The concept of knowledge acquisition can be traced back to the English philosopher, John Locke, when he described the state of human mind at birth as a blank slate, or *tabula rasa* (Locke, 2001; Parker, 2004). Locke believed that people are born without innate knowledge and that knowledge is acquired only through experiences (Mack & Meadowcroft, 2009).

Knowledge acquisition is a process of collecting data or information, on the one hand, and grasping, assimilating or analyzing them for concept formation, clarification, formulating questions or understanding the problem to be solved or arriving at conclusions on the other hand (Mathew, 1985). It is an essential activity for our intellectual growth. According to Tomei (2009, p. 134), “knowledge acquisition includes the elicitation, collection, analysis, modeling, and validation of knowledge”.

According to Welbourne (2001), knowing something requires the description of a mind with acquired knowledge. Therefore, a human mind cannot assume knowing anything until it has acquired the required knowledge (Chisholm, 1982). Since our brain is equipped with five anatomically distinct networks (Mesulam, 1998), the process of knowledge acquisition starts at birth by acquiring tacit knowledge through the process of social interactions, observations, insight, intuition, hunches, and so forth. (Mohammad, Abu Hamdeh, & Sabri, 2010). To facilitate this process people use a variety of sources and tools for acquiring knowledge. The sources include among others books, journals, magazines, and newspapers in both print and electronic format. Likewise, knowledge acquisition tools are means that can be used for acquiring knowledge such as people, libraries and information centers, social media, and IT-based resources.

KNOWLEDGE SOURCES

A source refers to a person, a document, or any object that can be consulted or used to get information or knowledge. Accordingly, knowledge sources in this study refer to books, journals, conference proceedings, magazines, and newspapers read by the faculty members to get knowledge. Reading is an important knowledge activity. Reading helps faculty members to horizon their knowledge, improve teaching activities, and contribute effectively to knowledge creation, acquisition, and sharing. Previous studies have investigated reading knowledge sources among faculty members (Abu-Tineh, 2011; Belefant-Miller & King, 2001; Hussin, 2007; Lenares, 1999; Patitungkho & Deshpande, 2005).

Belefant-Miller and King (2001) conducted a study to understand the reading of knowledge sources among faculty members. Findings showed that a large majority of faculty members read journals and books and were most likely to use their reading for research, teaching, and professional development. An investigation by Tenopir, King, and Bush (2004) confirmed that faculty members read scholarly journals to support research activities. The age of faculty appeared to have no influence on the choice of reading print and electronic journals. Tenopir, in another study (2011), found that reading among faculty members for research purpose was highly valued than reading for other purposes.

A report by Patitungkho and Deshpande (2005) on information seeking behavior of the faculty members in Thailand showed that most of the participants read books to acquire knowledge. In Malaysia, Hussin (2007) also investigated knowledge acquisition among faculty members. Findings of the study revealed that faculty members acquire knowledge through reading various knowledge sources. A focus group study by Carlock and Anali (2008) showed that faculty members use e-books for teaching and research. In Qatar, Abu-Tineh's (2011) study revealed that faculty members acquire knowledge through individual learning, departmental learning, and university learning. However, an investigation in UAE by Kaba and Said (2012) revealed that a large number of faculty members did not fully utilize e-books as expected. The authors recommended training, workshops, and marketing activities to promote the use of electronic sources among faculty members. Recently, a study by Shu-

va and Taisir (2016) at the University of Dhaka, Bangladesh, confirmed that the majority of faculty members use journals for research and teaching.

KNOWLEDGE ACQUISITION TOOLS

A tool is an instrument or a device that can be used to accomplish a task or to produce something (Kaba & Ramaiah, 2017). As part of KM tools, knowledge acquisition tools are used by knowledge workers to identify, capture, and acquire knowledge. The tools are mature and useful enough to support knowledge acquisition among faculty members (Gaines & Shaw, 1994). They include e-learning technologies, emerging technologies, and artificial intelligence technologies (see Table 1).

E-learning technologies, such as computer-based training (CBT) and web-based training (WBT) tools contribute to knowledge acquisition (Brown, 2010; Dalkir, 2011; Gil & Kim, 2002; Hsu, 2006). de Man, Bloemendaal, and Eggermont (2007) described the use of CBT for medical curriculum. According to them, CBT allows users to acquire knowledge any place and anytime. Michel et al. (2007) also demonstrated how CBT training increases efficiency and performance. The authors found that CBT training does not only increase performance but also results in faster response time when needed. Smolle and Reibnegger (2007) examined the potential of CBT training for facilitating the acquisition of explicit knowledge. Content analysis of the essays before and after the CBT training showed a highly significant increase in knowledge. Furthermore, there was a significant correlation between essay content on one hand and the scoring in CBT on the other. A study by Liu and Tsai (2005) confirmed the use of WBT tools by faculty members to acquire knowledge. Macgregor and Lou (2004) also found that concept mapping templates coordinated with the research tasks enhanced free recall and application of knowledge acquisition. In a case study, Saat (2004) found that WBT training help learners to acquired knowledge through recognition, familiarization, and automation.

Like e-learning technologies, emerging and artificial intelligence technologies are transforming the way people acquire knowledge. The ease of use and informal characteristics of these technologies have made them very popular among people (B. Dave & Koskela, 2009). They assist individuals, groups, and organizations in acquiring knowledge (Nemani, 2010). According to Ruhi and Al Mohsen (2015), Enterprise 2.0 technologies play an important role in influencing personal and organizational information behavior. A study by Gardner (2013) demonstrated how Enterprise 2.0 tools support knowledge workers. Similarly, Elahi, Naseri, Hasanzadeh, and Rouhani (2016) reported the use of Enterprise 2.0 for creating and diffusing knowledge. A report by Ermilov, Heino, Tramp, and Auer (2011) demonstrated how mobile users can collect data instantly, refine the structure of knowledge bases and browse data using hierarchical or faceted navigation on-the-go, even without a present data connection.

Of course, no one can deny the role of information and communication technologies (ICT) in KM; however, KM experts and specialists may have different views and perceptions in categorizing and classifying ICT tools as knowledge creation tools, knowledge sharing tools, and knowledge acquisition tools (Kaba & Ramaiah, 2017). This paper, with respect to the scope and objectives, only investigates the 13 knowledge acquisition tools listed in Table 1.

The above review of literature has shown that a good number of researchers have investigated knowledge acquisition among faculty members in different countries and locations, but not in UAE. Findings of this study should contribute to the development and implementation of knowledge acquisition not only in UAE but also in other GCC countries.

STAGE THEORY OF KNOWLEDGE CONSUMPTION GROWTH

Psychologists are among the earlier scholars who formulated the theories of knowledge acquisition. This includes the schools of behaviorism (Baron, 2001; Boeree, 2000; Graham, 2010), cognitivism (Koffka, 1936; Rock & Plamer, 1990), humanism (Ashworth, Brennan, Hamilton, & Sáenz, 2004; Maslow, 1987; Rogers, 1980), constructivism (Kirschner, Sweller, & Clark, 2006; Mayer, 2004), and

connectivism (Kop & Adrian, 2008; Siemens, 2004). Beside psychologists, other scholars also have contributed to the theory of learning and knowledge acquisition such as skills acquisition theory by Dreyfus and Dreyfus (1980) and stage theory of knowledge consumption growth by Mathew (1985).

Drawing on Dreyfus and Dreyfus's (1980) skill acquisition theory, Mathew (1985) developed knowledge acquisition growth stage theory to explain the transformation process from low-level knowledge acquisition to high level of knowledge acquisition through the following four stages:

- i. *Backward or low-level knowledge acquisition stage:* At this stage, an individual or the society as a whole acquires a low-level of knowledge. To them, knowledge has no value or importance. In this situation knowledge acquisition is nothing but a casual and not purposive. The domain feature of this stage is information illiteracy. Use of information and knowledge resources, if any, is for entertainment or for elementary information. For the society, knowledge has no practical value in a material sense, except for spiritual or personal enlightenment.
- ii. *Pre-condition to take-off stage:* At this stage, a person acquires low-level knowledge at a higher rate; realizes the value of knowledge and information skill; develops reading habits; uses libraries and comprehends the need for advanced library services and simple information technology.
- iii. *Critical or take-off stage:* By reaching this stage a person acquires a high level of knowledge. This is achieved by acquiring fundamental and basic knowledge, increasing specialization in selected areas, familiarizing with the state of the art, attaining full mastery in information skill, increasing dependency on advanced library services and information technology. Also at this stage, an individual develops skills for writing and presenting technical notes, reports, papers, and so forth.
- iv. *Advanced stage or stage of affluence in knowledge acquisition:* At this level, a person is known for developing knowledge production capacity and an ability to assess the present trend of knowledge growth and visualize future trends. The high level of knowledge acquisition attained has resulted in high level of knowledge production. The major activity of life has been switched to the high level of knowledge acquisition and production. Information technology has become part and parcel of day-to-day life so as to minimize the communication gap at both the national and international levels.

The current study is guided by the stage theory of knowledge consumption growth (Mathew, 1985). To the best of our knowledge, this is the second empirical study validating this theory. The theory was first validated in 2001 by Soman in India (Soman, 2001). Soman's study revealed that faculty members take 10 to 15 years to reach the stage of affluence or expert stage from a novice. The theory is preferred for this study because it helps to explore phases through which faculty members use knowledge acquisition sources and tools.

RESEARCH HYPOTHESES

The paper attempts to achieve its objectives through testing selected hypotheses on reading knowledge sources and using knowledge acquisition tools.

READING KNOWLEDGE SOURCES

One of the main objectives of this study is to validate and verify stage three of the "Stage Theory of Knowledge Consumption Growth". According to the theory, at this stage a person is involved in acquiring fundamental and basic knowledge, strengthening specialization, and improving dependency for the use of digital resources and ICT. These kinds of knowledge acquisition activities are relevant to faculty status and include reading knowledge sources such as books, journals, magazines, and newspapers. According to Sharma and Singh (2005), reading is an intellectual activity and its practice is influenced by many factors such as environment, specializations, age, and status. A study by Tenopir and King (2000, cited in Tenopir, King, & Bush, 2004) indicated that age may have an impact on reading among faculty members. Similarly, Soman (2001) found that knowledge acquisition by the

faculty members varies with respect to the gender, age, experience, designation and areas of specialty etc. These findings lead us to the following hypotheses:

- H1a. Faculty members in UAE read knowledge sources for knowledge acquisition.*
- H1b. Male and female faculty members in UAE differ in reading knowledge sources*
- H1c. Faculty members from public and private institutions in UAE differ in reading knowledge sources*
- H1d. Faculty members from different age groups in UAE differ in reading knowledge sources.*
- H1e. Faculty members with different academic qualifications in UAE differ in reading knowledge sources.*
- H1f. Faculty members with different academic ranks in UAE differ in reading knowledge sources.*
- H1g. Faculty members with different academic specializations in UAE differ in reading knowledge sources.*

USING KNOWLEDGE ACQUISITION TOOLS

Another important objective of the study is to test stage four of “Stage Theory of Knowledge Consumption Growth”. As stated by the theory, at stage four a person is involved in the high level of knowledge acquisition which requires the use of ICT based knowledge acquisition tools. According to Soman (2001), the use of ICT based knowledge acquisition tools helps faculty members to attain the fourth stage of “Stage Theory of Knowledge Consumption Growth”. However, an investigation by Ejechi (2013) indicated the influence of gender, age, and tenure of experience on the use of ICT tools among faculty members. Similarly, a study by Ahmed and Kurshid (2016) in Pakistan revealed demographic differences among faculty members in the use of ICT tools for teaching and learning. These findings guide us to the following hypotheses:

- H2a. Faculty members in UAE use advanced knowledge acquisition tools for acquiring knowledge.*
- H2b. Male and female faculty members in UAE differ in using knowledge acquisition tools.*
- H2c. Faculty members from public and private academic institutions in UAE differ in using knowledge acquisition tools.*
- H2d. Faculty members of various age groups in UAE differ in using knowledge acquisition tools.*
- H2e. Faculty members with different academic qualifications in UAE vary in using knowledge acquisition tools.*
- H2f. Faculty members with different academic ranks in UAE vary in using knowledge acquisition tools.*
- H2g. Faculty members with different academic specializations in UAE vary in using knowledge acquisition tools.*

METHODOLOGIES

POPULATION AND SAMPLING

The target population is faculty members affiliated with 78 accredited universities and colleges in UAE. Academic institutions are considered as knowledge-intensive organizations and play a vital role in the process of knowledge acquisition (Tian et al., 2009). Twenty-six out of 78 accredited universities and colleges were selected based on the level of academic programs offered by each institution and the number of faculty members. The study excluded academic institutions not accredited by the Ministry of Higher Education and Scientific Research in UAE. In addition, accredited academic institutions with no undergraduate programs or employing less than six faculty members are also excluded from the study. These exclusions were important for determining the scope of the study and for ensuring homogeneity level and representativeness of the sample used in the study.

The sample was obtained from the websites of the selected 26 universities and colleges. By using purposive sampling method, a total of 420 were selected among 1102 faculty members. This selection was based on the access to the CVs of faculty members, contact details, teaching activities, research activities, the list of publications, etc. In addition, the seven study strata consisted of engineering, information technology, science, medicine and health sciences, humanities and social sciences, business and management, and education. The sample came from a large KM project. However, their responses to KA questions have never been reported before.

THE INSTRUMENT

In this study, the concept of knowledge acquisition tools refers to 13 ICT-based tools that can be used by the faculty members for acquiring knowledge. The tools are adapted from a book entitled *Knowledge management in theory and practice* by Dalkir (2011). In this paper, we refer to the 13 tools listed in Table 1 as “Knowledge Acquisition Tools”.

Table 1. Knowledge acquisition tools (adopted from Dalkir, 2011)

No.	E-Learning Technologies	No.	Emerging Technologies	No.	AI Technologies
1	Computer Based Training (CBT)	1	Folksonomies	1	Expert Systems
2	Web-Based Training (WBT)	2	Metadata	2	Decision Support System (DSS)
				3	Push/Pull Technologies
				4	Recommender Systems
				5	Visualization
				6	Knowledge Maps
				7	Intelligent Agents
				8	Automated Taxonomy Systems
				9	Text Analysis — Summarization

Similarly, the concept of knowledge sources refers to five knowledge sources in the electronic or print format for acquiring knowledge. The sources are books, journals, conference proceedings, magazines, and newspapers. These sources were identified through review of previous and related studies (Abu-Tineh, 2011; Belefant-Miller & King, 2001).

A web-based questionnaire was designed and sent to 420 faculty members. The listed knowledge acquisition resources and tools were measured on a 5-point Likert Scale. The questionnaire was pre-tested for validity. Some changes were made based on the comments received from the participants. We also established face and content validities of the instrument through integrating expert opinions, comments, and recommendations into the revised and final version.

Moreover, we also applied Bartlett’s Test of Sphericity for discriminant validity. Results show the significance of Bartlett’s test for each construct ($p < .05$). This confirms that the extracted factors are not perfectly correlated and the discriminant validity of the questionnaire is supported. Similarly, the reliability test scored from 0.905 to 0.918 for Cronbach alpha indicated the internal consistency and correlation of the items listed as “Knowledge Acquisition Tools” and “Knowledge Sources” respectively.

DATA COLLECTION AND TREATMENT

It is noteworthy to confirm that, as part of KM project, the data set in this paper was collected along with the data set reported by the authors in the *Journal of Knowledge Management* (Kaba & Ramaiah, 2017). However, the data set in the first paper is used to study knowledge creation tools, while this paper is focused on knowledge acquisition tools.

Data were collected using a survey questionnaire. The authors received 317 responses out of 420 questionnaires distributed among faculty members. Seventeen questionnaires were found incomplete. Therefore, 300 completed responses were analyzed and are discussed in this study. The collected data were coded and analyzed using the Statistical Package for Social Sciences (SPSS 20). Descriptive statistics were applied to describe the data and to obtain the demographic details. Demographic backgrounds include gender, age, academic qualification, academic rank, academic specialization, and institutional affiliation. Statistical tests, such as z-test, t-test, and ANOVA test, are used for hypotheses testing. As confirmed by many research and statistic textbooks and references (Kothari, 2004; Mason,

Lind, & Marchal, 1999; Norusis, 1999), t-test is an appropriate test for identifying the significance of differences between the means of two samples, while ANOVA test is an appropriate test for finding the significance of differences among the means of more than two samples.

FINDINGS

RESPONDENTS

The descriptive analysis showed that 76.33% of the respondents are males and 23.67% are females. Respondents were divided into age groups using the grouping method from Ghazzawi's study (2011). The age group analysis revealed that 81.67% of participants are aged between 26 to 55 years. For academic qualification, 85.33% of the faculty members are PhD degree holders compared to 12% with Master degrees. Likewise, respondents' academic ranking show that 106 (35.33%) of the participants are Associate Professors, 102 (34%) are Assistant Professors, 48 (16%) are full professors, 34 are lecturers (11.33%), and 10 (3.33%) have other ranking status.

READING KNOWLEDGE SOURCES

This section tries to identify the nature of reading knowledge sources by faculty members, and also to determine whether the demographic differences among faculty members drive differences in reading knowledge sources. Knowledge sources in this study are books, journals, conference proceedings, magazines, and newspapers. The participants were asked to indicate the number of books, journal articles, and so forth, they have read, in print or electronic formats, during the last three months. As listed in Table 2, the findings indicate that 45% of the respondents reported reading more than 12 papers published in the journals within the last three months. Similarly, 44.3% of the respondents indicated reading more than 12 articles published in the newspapers, and 38% of them reading more than 12 books during the same period. However, about 10% of the respondents did not read any papers published in conference proceedings, followed by magazines (7%) and books (10.7%) during the last three months. Further analysis revealed that faculty members specialized in Medicine read more knowledge sources ($M = 10.11$) than faculty members specialized in IT ($M = 9.60$), Science ($M = 9.52$), Education ($M = 8.72$), Humanities and Social Sciences ($M = 8.38$), Engineering ($M = 6.41$), and Business ($M = 5.72$).

Table 2. Reading knowledge sources

Knowledge Sources	Total	Range of Reading for the Last 3 Months					
		0	1-3	4-6	7-9	10-12	Above 12
Journals	300	17(5.6%)	28(9.3%)	42(14%)	37(12.3%)	41(13.7%)	135(45%)
Newspapers	300	27(9%)	34(11.3%)	25(8.3%)	38(12.7%)	43(14.3%)	133(44.3%)
Books	300	32(10.7%)	77(25.7%)	30(10%)	20(6.7%)	27(9%)	114(38%)
Magazines	300	21(7%)	43(14.3%)	44(14.7%)	44(14.7%)	43(14.3%)	105(35%)
Conference proceedings	300	30(10%)	55(18.3%)	50(16.7%)	39(13%)	46(15.3%)	80(26.7%)

As illustrated in Table 3, the mean (M) scores of readings indicate that journals and newspapers are the most opted knowledge source by the faculty members ($M = 0.950$), followed by magazines ($M = 0.933$), and conference proceedings ($M = 0.906$). On the other hand, books are the least opted knowledge source by the respondents ($M = 0.896$). In addition, the z test revealed negative z-scores with p-values less than 0.05. This indicates statistically significant that the majority of faculty members investigated read knowledge sources. The results support the stated hypothesis (H1a) as well as the stage three proposed by the "Stage Theory of Knowledge Consumption Growth".

Table 3. Reading knowledge sources

Knowledge Sources	Total	Reading for the past 3 months	Not reading for the past 3 months	M	z-score	P-value
Journals	300	283(94.30%)	17(5.6%)	0.950	-4.351	0.000*
Newspapers	300	273(90.90%)	27(9%)	0.950	-4.351	0.000*
Magazines	300	279(93.00%)	21(7%)	0.933	-3.735	0.000*
Conference proceedings	300	270(90.00%)	30(10%)	0.906	-3.111	0.000*
Books	300	268(89.40%)	32(10.7%)	0.896	-2.940	0.001*

* Significant at 0.05 level

DIFFERENCES IN READING KNOWLEDGE SOURCES

The second hypothesis on reading knowledge sources (H1b) assumes differences among male and female faculty members in reading knowledge sources. We used an independent sample t-test to validate this hypothesis. As illustrated in Table 4 , the t-test results indicate statistically no significant difference among male and female faculty members in reading knowledge sources (t-value = 0.203, p-value: 0.839). However, the differences are statistically significant among faculty members affiliated with the public universities and colleges as compared to the participants from private universities and colleges in reading knowledge sources (t-value = 2.908, p-value = 0.004). The findings support the stated hypothesis (H1c) and indicate that institutional affiliation may have an impact on reading knowledge sources a faculty member.

Table 4. t-test and ANOVA test results

Variable	Hypothesis	t or F-Value	P-Value*	Finding
Gender	Male and female faculty members in UAE differ in reading knowledge sources (H1b).	0.203	0.839	Not supported
Affiliation	Faculty members from public and private institutions in UAE differ in reading knowledge sources (H1c).	2.908	0.004*	Supported
Age	Faculty members from different age groups in UAE differ in reading knowledge sources (H1d).	5.656	0.001*	Supported
Qualification	Faculty members with different academic qualifications differ in reading knowledge sources (H1e).	2.064	0.105	Not supported
Rank	Faculty members with different academic ranks in UAE differ in reading knowledge sources (H1f).	4.370	0.002*	Supported
Specialization	Faculty members with different academic specializations in UAE differ in reading knowledge sources (H1g).	8.143	0.000*	Supported

* Significant at 0.05 level

Moreover, the ANOVA test in Table 4 shows significant difference in reading knowledge sources among faculty members of different age groups (F-value = 5.656, p-value = 0.001), different academic rank (F-value = 4.370, p-value = 0.002), and different specializations (F-value = 8.143, p-value = 0.000). However, statistically, no significant difference was found among faculty members of different academic qualifications in reading knowledge sources (F-value = 2.064, p-value = 0.105). This

indicates that the faculty reading of knowledge sources is related to age, academic rank, and academic specialization, but not academic qualifications.

USING KNOWLEDGE ACQUISITION TOOLS

Knowledge acquisition tools are means to acquire knowledge. The tools include web and computer-based tools, text analysis, visualization, knowledge maps, and so forth. Results for the use of knowledge acquisition tools by the respondents are reported in Table 5. Respondents reported the highest mean score for using web-based training tools ($M = 0.973$), with more than 97% of the respondents using these tools to acquire knowledge. Other knowledge acquisition tools highly used by the respondents are computer-based training or learning ($M = 0.933$) programs, and text analysis ($M = 0.800$). On the other hand, the least consulted source by the respondents are Knowledge map ($M = 0.630$), followed by both Automated Taxonomy systems and intelligent agents ($M = 0.670$), and recommender systems ($M = 0.696$). Further investigation show that faculty members specialized in IT use more ICT based knowledge acquisition tools ($M = 2.87$) than faculty members specialized in Business ($M = 2.80$), Medicine or Education ($M = 2.58$), Science ($M = 2.57$), Humanities and Social Sciences ($M = 2.47$), and Engineering (2.35).

Meanwhile, although z tests revealed negative z-scores with a p-value less than 0.05 for six tools, the p-value for the remaining seven tools is more than 0.05. This indicates that statistically there is no significant use of advanced knowledge acquisition tools by the majority of the faculty members. The results reject the stated hypothesis (H2a) and do not support the emergence of stage four proposed by the “Stage Theory of Knowledge Consumption Growth” from our study, since using ICT-based tools should be symbolic at this stage.

Table 5. Use of knowledge acquisition tools

Knowledge Acquisition Tools	Total	Using for the past 3 Months	Not using for the Past 3 Months	M	z-Score	P-Value
Web-based training (WBT)	300	97%	3%	0.973	-6.031	0.000*
Computer-based training (CBT)	300	93%	7%	0.933	-3.735	0.000*
Folksonomies	300	85%	15%	0.843	-2.316	0.010*
Text analysis	300	80%	20%	0.800	-1.996	0.022*
Decision Support Systems (DSS)	300	78%	22%	0.783	-1.898	0.028*
Metadata	300	78%	22%	0.780	-1.879	0.030*
Expert systems (ES)	300	73%	27%	0.730	-1.641	0.050
Push/pull technologies	300	72%	28%	0.716	-1.587	0.056
Visualization	300	71%	29%	0.710	-1.562	0.059
Recommender systems	300	70%	30%	0.696	-1.512	0.065
Intelligent agents	300	67%	33%	0.670	-1.422	0.077
Automated taxonomy systems	300	67%	33%	0.670	-1.422	0.077
Knowledge maps	300	63%	37%	0.630	-1.302	0.096

* Significant at 0.05 level

DIFFERENCES IN USING KNOWLEDGE ACQUISITION TOOLS

The second hypothesis of the study on using knowledge acquisition tools (H2b) assumes differences among male and female faculty members in using knowledge acquisition tools. Likewise, the third hypothesis (H2c) states the differences among faculty members from public and private institutions in using knowledge acquisition tools. We used an independent sample t-test test to validate the two

hypotheses. As illustrated in Table 6, the t-test results indicate statistically no significant difference among male and female faculty members in the use of knowledge acquisition tools. Similarly, the differences are not statistically significant between faculty members affiliated with public universities and colleges and those from private universities and colleges. The results do not support the stated hypotheses H2b or H2c. This means gender or affiliation may not have any impact on the use of knowledge acquisition tools by a faculty member.

In addition to the t-test, ANOVA test was used to verify and validate the remaining four hypotheses on the use of knowledge acquisition tools. Findings in Table 6 show that there is statistically no significant difference among faculty members of different age groups in using knowledge acquisition tools (F-value = 0.763, p-value = 0.515). In addition to age, results of the study revealed statistically no significant difference among faculty members of different qualifications (F-value = 0.693, p-value = 0.557), or different academic ranks (F-value = 1.663, p-value = 0.159). These results do not support the stated hypotheses (H2d, H2e, and H2f). In fact, they indicate that a faculty use of knowledge acquisition tools is not influenced by age, qualification, or academic rank.

On the other hand, the results of the study indicate statistically significant difference among faculty members of different academic specializations in using knowledge acquisition tools (F-value = 2.167, p-value = 0.037). This finding supports the stated hypothesis (H2g) that faculty use of knowledge acquisition tools is related to academic specialization or discipline. This means academic specialization may have an impact on the use of knowledge acquisition tools by faculty members.

Table 6. t-test and ANOVA tests results

Variable	Hypothesis	t or F-Value	P-Value*	Finding
Gender	Male and female faculty members in UAE differ in using knowledge acquisition tools (H2b).	-0.189	0.850	Not supported
Affiliation	Faculty members from public and private institutions in UAE differ in using knowledge acquisition tools (H2c).	-0.735	0.463	Not supported
Age	Faculty members of various age groups in UAE differ in using knowledge acquisition tools (H2d).	0.763	0.515	Not supported
Qualification	Faculty members with different academic qualifications in UAE vary in using knowledge acquisition tools (H2e).	0.693	0.557	Not supported
Rank	Faculty members with different academic ranks in UAE vary in using knowledge acquisition tools (H2f).	1.663	0.159	Not supported
Specialization	Faculty members with different academic specializations in UAE vary in using knowledge acquisition tools (H2g).	2.167	0.037*	Supported

* Significant at 0.05 level

DISCUSSION

Knowledge sources and tools are essential means for acquiring knowledge. In this study, we have been able to test and verify stage three and four proposed by the “Stage theory of knowledge consumption growth”. Results of the study revealed that faculty members in UAE acquire knowledge by reading journals, newspapers, books, magazines, and conference proceedings. These findings confirm significant support for stage three proposed by the theory. However, findings on the use of ICT tools for knowledge acquisition by faculty members did not support stage four proposed by the theory. Possible reasons behind this could be related to the lack of ICT tools’ provision to faculty mem-

bers, lack of need to use the tools, and lack of knowledge and skills needed to use the tools for knowledge acquisition.

Findings of the study show that medical faculty members read more knowledge acquisition sources than other faculty members from other specializations. Moreover, the results indicate that journals and newspapers are the most read sources among the faculty members, followed by the published articles in the magazines, and conference proceedings. Certainly, journals are vital sources for acquiring new knowledge. Though faculty members may use other sources, however, journals are considered to be the main source of scientific research and professional knowledge. The findings are consistent with a study conducted at the University of Washington Libraries by Hiller (2001) in which journals received the highest mean scores compared to books and bibliographic databases. In another study from India, Sharma and Singh (2005) found that journals are the main reading source for faculty members compared to conference proceedings and other sources. Therefore, universities and colleges should provide a sufficient number of scientific journals, especially e-journals, to faculty members. This provision must take into consideration, among others, college programs and specializations, research projects and research trends to meet the need of faculty members to with regard to the scientific journals.

Findings show statistically significant difference between the age groups in reading knowledge sources. The differences within the age groups in this study are found significant between “46-55” year age group versus “26-35”, “36-45”, and “Above 55” year age groups. Although the findings do not indicate which age group does better in reading knowledge sources than the others, the differences might be due to the fact that age group “26-35” represents young generation with high ambitions but less experience in teaching and research. They are usually enthusiastic and motivated to obtain PhD degrees or to be promoted as an Associate or full Professor. Accordingly, this group is expected to be reading more sources than the others (Borella, Ghisletta, & de Ribaupierre, 2011; Miller, 2009; Paterson, McGowan, & Jordan, 2013; Tenopir, King, & Bush, 2004).

On the other hand, the age group “46-55” years can be considered as middle age group representing Associate and full Professors with high experience in teaching and research. The group is expected to be very effective in managing reading. Their level of reading could be moderate compared to the reading level of younger generation. The “Above 55” year age group represents old generation with the highest level of experience in teaching and research. However, a large majority of this group may have low energy and motivation for teaching and research. Hence, the level of reading might be the lowest among these three groups. This argument is supported by the significant difference found in this study, among faculty members of different academic rank in reading knowledge sources and also by Levin and Stephan (1991) study which found the impact of age on scientific productivity.

Like age, findings of the study show significant differences among faculty members with different academic ranks and institutional affiliation in reading knowledge sources. The differences might be linked to research activities of faculty members. According to the *QS university ranking report 2018*, the public universities in UAE occupy a better rank in research compared to the private universities (QS Intelligence, 2018).

Findings of the study show that WBT tools are the most consulted tool among faculty members, followed by CBT tools. Moreover, the study found significant differences among faculty members of different specializations in using knowledge acquisition tools. These differences were found between faculty members from IT related specializations versus those from Humanities & Social Sciences. Interestingly, the remaining demographic characteristics – gender, age, qualification, academic rank, institutional affiliation – did not show any significant differences among participants in using knowledge acquisition tools. Research clearly shows that there are differences between faculty members from different specializations and disciplines (Takeuchi et al., 2015; Tenopir et al., 2004). This might be due to the fact that different specializations enjoy a different level of exposure to the use of ICT tools for knowledge acquisition. As indicated earlier in this study, we found that faculty mem-

bers specialized in IT use more ICT based knowledge acquisition tools as compared to others. Another possible factor might be the availability of knowledge acquisition tools. As we know, different institutions have different abilities to provide IT-based knowledge acquisition tools which, in turn, may have an effect on the use of these tools among faculty members.

CONTRIBUTIONS

The paper represents one of the few empirical studies on knowledge acquisition among faculty members in the GCC countries. Findings of the study contribute to the theoretical and practical understanding of knowledge acquisition among faculty members. From the theoretical perspective, the paper has been able to test and verify stage three and four proposed by the “Stage theory of knowledge consumption growth” (Mathew, 1985). Although the findings of the study confirm the third stage of the theory and confirm the previous validation reported by Soman (2001), more empirical and in-depth investigations are needed to reconfirm these findings.

From a practical point of view, the paper has highlighted many issues for future studies. For instance, academic specialization seems to have a relationship with the use of knowledge acquisition tools. Similarly, age, academic rank, and institutional affiliation indicated relationships with reading knowledge sources. Future studies may confirm not only the existence of these relationships but also determine whether the relationships are positively or negatively affecting the use of knowledge acquisition tools and reading knowledge sources among faculty members.

In addition, the study also reported the use of advanced technologies by faculty members to acquire knowledge. Academic institutions in UAE and other GCC countries may use this paper for improving general KM and particularly knowledge acquisition among faculty members. It can be used to formulate and prepare strategic plans for knowledge acquisition. Moreover, the paper could be an important reference for decision makers, stakeholders, and sponsors to support the provision of advanced and up-to-date ICT tools, knowledge sources, and professional development and training needed for knowledge acquisitions.

LIMITATIONS

First of all, the population of this study is limited to the selected 26 universities and colleges accredited by Ministry of Higher Education and Scientific Research in UAE. This decision is based on the scope of the study and time available. Future studies may expand the study population by including not only all the accredited academic institutions but also non-accredited universities and colleges in UAE. In addition, future studies may include universities and colleges from other GCC countries to identify differences and similarities among faculty members on the use of knowledge acquisition tools and reading knowledge sources.

Secondly, an important part of the study is based on the use of advanced technology tools for knowledge acquisition by faculty members. Data were collected through English survey questionnaire. The authors believe that this instrument is relevant in collecting valid and reliable data. However, taking into consideration the language barriers and difficulty to understand these tools, we suggest that future researchers in UAE or other GCC countries provide short definitions for the tools, and also translate the entire instrument into Arabic. The definitions and translations will help the participants in answering the survey questions. Moreover, it will be also important to combine quantitative and qualitative data collection methods for the purpose of comparison and in-depth analysis.

Finally, as mentioned earlier, this paper is based on 13 knowledge acquisition tools adapted from the book *Knowledge management in theory and practice* (Dalkir, 2011). The scope of the study did not allow the authors to investigate all the knowledge acquisition tools (M. Dave, Dave, & Shishodia, 2012; Kaba & Ramaiah, 2017; Kosina, 2011; Wieringa, 2010). Future studies may investigate the use of emerging technology tools such as Enterprise 2, Semantic Web (Web 3), and ubiquitous technologies for knowledge acquisition among faculty members.

CONCLUSION

Knowledge acquisition is an essential and fundamental activity needed for intellectual growth, innovation, creativity, and knowledge productivity. Like other scientists and knowledge workers, faculty members make use of ICT and non-ICT based tools for knowledge acquisition. They use ICT-based tools, such as visualization, metadata, and WBT to acquire knowledge. Similarly, they may use non-ICT based tools, such as mentors, colleagues, and teammates, for the same purpose. Besides using knowledge tools, faculty members read knowledge sources in print and electronic formats, such as journals, books, and conference proceedings. Reading these resources is essential for keeping in touch with the latest developments, identifying trends, and making contributions to scientific research and productivities. This is in line with the third and fourth stages of knowledge acquisition proposed by the “Stage Theory of Knowledge Consumption Growth” (Mathew, 1985). According to the theory, at the critical or take off stage – third stage – an individual is involved in acquiring fundamental and basic knowledge, strengthening specialization, improving dependency for the use of digital resources and ICT. At the advanced stage – the fourth stage – the person is involved in the high level of knowledge acquisition which requires reading knowledge sources and using knowledge acquisition tools to produce a high level of knowledge. Accordingly, findings of the study strongly support the proposed third stage. Therefore, academic institutions have the responsibility of facilitating knowledge acquisition tools and sources. This can be achieved by the provision of adequate and up-to-date knowledge acquisition tools and knowledge sources.

REFERENCES

- Abdoulaye, K., & Majid, S. (2000). Use of the internet for reference services in Malaysian academic libraries. *Online Information Review*, 24(5), 381-388. <https://doi.org/10.1108/14684520010357338>
- Abu-Tineh, A. M. (2011). Exploring the relationship between organizational learning and career resilience among faculty members at Qatar University. *International Journal of Educational Management*, 25(6), 635-650. <https://doi.org/10.1108/09513541111159095>
- Adenfelt, M., & Lagerström, K. (2006). Enabling knowledge creation and sharing in transnational projects. *International Journal of Project Management*, 24(3), 191-198. <https://doi.org/10.1016/j.ijproman.2005.09.003>
- Ahmed, H., & Kurshid, F. (2016). Usage of information and communication technology among public and private sector university faculty. *Journal of Elementary Education*, 26(1), 39-55.
- Alipour, F., Idris, K., & Karimi, R. (2011). Knowledge creation and transfer: Role of learning organization. *International Journal of Business Administration*, 2(3), 61-67. <https://doi.org/10.5430/ijba.v2n3p61>
- Ashworth, F., Brennan, G., Hamilton, R., & Sáenz, O. (June 2004). *Learning theories and higher education*. Level3 (2), 1-16. Dublin: Dublin Institute of Technology. Retrieved from <http://arrow.dit.ie/cgi/viewcontent.cgi?article=1003&context=engschelear>
- Baron, R. A. (2001). *Psychology*. USA: Allyn & Bacon.
- Belefant-Miller, H., & King, D. W. (2001). How, what, and why science faculty read. *Science & Technology Libraries*, 19(2), 91-112. https://doi.org/10.1300/J122v19n02_08
- Bhatt, G. D. (2000). Organizing knowledge in the knowledge development cycle. *Journal of Knowledge Management*, 4(1), 15-27. <https://doi.org/10.1108/13673270010315371>
- Birkinshaw, J. (2001). Making sense of knowledge management. *Ivey Business Journal*, 65(4): 32-36. Retrieved from <https://iveybusinessjournal.com/publication/making-sense-of-knowledge-management/>
- Birkinshaw, J., & Sheehan, T. (2002). Managing knowledge life cycle. *MIT SLOAN Management Review*, 44(1), 74-83.
- Boeree, G. (2000). *Behaviorism*. Retrieved from <http://webpace.ship.edu/cgboer/beh.html>

Knowledge Acquisition Among Faculty Members

- Borella, E., Ghisletta, P., & de Ribaupierre, A. (2011). Age differences in text processing: The role of working memory, inhibition, and processing speed. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 66(3), 311–320. <https://doi.org/10.1093/geronb/gbr002>
- Brown, S. (2010). From VLEs to learning webs: The implications of web 2.0 for learning and teaching. *Interactive Learning Environments*, 18(1), 1-10. <https://doi.org/10.1080/10494820802158983>
- Bukowitz, W., & Williams, R. (1999). *The knowledge management fieldbook*. Harlow: Financial Times/Prentice Hall.
- Cambridge University Press. (2008). *Cambridge advanced learner's dictionary*. Cambridge, UK: Cambridge University Press.
- Carlock, D. M., & Anali, M. P. (2008). Exploring faculty experiences with e-books: A focus group. *Library Hi Tech*, 26(2), 244-254. <https://doi.org/10.1108/07378830810880342>
- Cheema, D. S. (2010). *Knowledge management analysis, design, and implementation*. Chandigarh, India: Global Media.
- Chisholm, R. M. (1982). *Foundations of knowing*. Minnesota: University of Minnesota Press.
- Coakes, E. (2004). Knowledge management: A primer. *Communications of the Association for Information Systems*, 14, 406-489. <https://doi.org/10.1057/ori.2004.10>
- Collins, H. (2010). *Tacit and explicit knowledge*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226113821.001.0001>
- Crompton, H. (2002). *Knowledge production and management in the 21st century (No. WPS045)*. Manchester: Manchester Metropolitan University. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.104.412&rep=rep1&type=pdf>
- Dalkir, K. (2011). *Knowledge management in theory and practice*. Cambridge, MA: MIT Press.
- Dave, B., & Koskela, L. (2009). Collaborative knowledge management: A construction case study. *Automation in Construction*, 18(7), 894–902. <https://doi.org/10.1016/j.autcon.2009.03.015>
- Dave, M., Dave, M., & Shishodia, Y.S. (2012). Emerging trends and technologies in knowledge management: A holistic vision. *International Journal of Recent Research and Review*, III, 60-67. Retrieved from www.ijrrr.com/papers3/paper7.pdf
- de Man, A. J. M., Bloemendaal, P. M., & Eggermont, S. (2007). Online medical CBT usage. *Twentieth IEEE International Symposium on Computer-Based Medical Systems (CBMS'07), Maribor, Slovenia*, 663–668. <https://doi.org/10.1109/CBMS.2007.77>
- Dreyfus, S. E., & Dreyfus, H. L. (1980). *A five-stage model of the mental activities involved in directed skill acquisition*. Operation Research Center (ORC 80-2). Berkeley, CA: University of California, Berkeley. <https://doi.org/10.1109/CBMS.2007.77>
- Drucker, P. F. (1999). *Management challenges for the 21 Century*. New York: Harper Collins.
- Ejechi, E. O. (2013). Information communication technology in academics: How far with elderly Nigerian academics? *International Journal of Humanities and Social Science*, 3(6), 118-122.
- Elahi, S., Naseri, S. M., Hasanzadeh, A., & Rouhani, A. (2016). A framework for creation and diffusion of knowledge for knowledge management in Enterprise 2.0. *Iranian Journal of Information Processing and Management*, 31(2), 407-430.
- Ermilov, T., Heino, N., Tramp, S., & Auer, S. (2011). Onto wiki mobile – Knowledge management in your pocket. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* (Vol. 6643 LNCS, pp. 185–199). https://doi.org/10.1007/978-3-642-21034-1_13
- Gaines, B. R., & Shaw, M. L. G. (1994). Using knowledge acquisition and representation tools to support scientific communities. *Proceedings of the Twelfth National Conference on Artificial Intelligence* (pp. 707-714). Menlo Park, CA: AAAI Press/MIT Press. Retrieved from <http://www.aaai.org/Papers/AAAI/1994/AAAI94-108.pdf>
- Gardner, B. (2013). Making sense of Enterprise 2.0. *VINE. The Journal of Information & Knowledge Management Systems*, 43(2), 149-160. <https://doi.org/10.1108/03055721311329936>

- Ghazzawi, I. (2011). Does age matter in job satisfaction? The case of U.S. information technology professionals. *Journal of Organizational Culture, Communications and Conflict*, 15(1), 25-54. Retrieved from <https://search.proquest.com/docview/886532019?accountid=130846>
- Gil, Y., & Kim, J. (2002). Interactive knowledge acquisition tools: a tutoring perspective. *Proceeding of the 24th Annual Meeting of Cognitive Science Society, Georgia Mason University, Fairfax, Virginia*, 357-362. Retrieved from <http://trellis.semanticweb.org/~gil/papers/gil-Kim-cogsci02.pdf>
- Graham, G. (2010). *Behaviorism. Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/entries/behaviorism/>
- Hall, B. L. (1979). Knowledge as a commodity and participatory research. *Prospect: Quarterly Review of Education*, 9(4), 393-408. <https://doi.org/10.1007/BF02331493>
- Hiller, S. (2001). Assessing user needs, satisfaction, and library performance at the University of Washington Libraries. *Library Trends*, 49(4), 605-625. Retrieved from https://www.ideals.illinois.edu/bitstream/handle/2142/8375/librarytrendsv49i4e_opt.pdf
- Hsu, S. (2006). Analysis on knowledge creation and its affecting factors in the asynchronous web-based learning system. *The Journal of Human Resource and Adult Learning, November*, 156-164.
- Hussin, M. N. (2007). *Knowledge acquisition among academics at a Malaysian public university*. Unpublished doctoral dissertation, Universiti Putra Malaysia.
- Kaba, A., & Ramaiah, C. K. (2017). Demographic differences in using knowledge creation tools among faculty members. *Journal of Knowledge Management*, 21(4): 857-871. <https://doi.org/10.1108/JKM-09-2016-0379>
- Kaba, A., & Said, R. (2012). Usage of electronic books: A study of ebrary database in the United Arab Emirates. *DESIDOC Journal of Library and Information Technology*, 32(2), 95-100. <https://doi.org/10.14429/djlit.32.2.1590>
- Kefela, G. (2010). Knowledge-based economy and society has become a vital commodity to countries. *International NGO Journal*, 5(7), 160-166.
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, 41(2), 75-86. https://doi.org/10.1207/s15326985ep4102_1
- Koffka, K. (1936). *Principles of Gestalt psychology*. New York: Harcourt.
- Kop, R., & Adrian, H. (2008). Connectivism: Learning theory of the future or vestige of the past? *International Review of Research in Open and Distance Learning*, 9(3), 1-13. <https://doi.org/10.19173/irrodl.v9i3.523>
- Kosina, P. (2011). *Current trends in KM tools and methods - Knowledge management for development*. Retrieved from <http://www.km4dev.org/profiles/blogs/current-trends-in-km-tools-and-methods>
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Delhi: New Age International.
- Lenares, D. (1999). Faculty use of electronic journals at research institutions. *ACRL Ninth National Conference, Detroit, Michigan*, 1-6. Retrieved from <http://www.ala.org/acrl/sites/ala.org/acrl/files/content/conferences/pdf/lenares99.pdf>
- Levin, S. G., & Stephan, P. E. (1991). Research productivity over the life cycle: Evidence for academic scientists. *The American Economic Review*, 81(1), 114-132.
- Liu, C.-C., & Tsai, C.-M. (2005). Peer assessment through web-based knowledge acquisition: tools to support conceptual awareness. *Innovations in Education and Teaching International*, 42(1), 43-59. <https://doi.org/10.1080/14703290500048838>
- Locke, J. (2001). *An essay concerning human understanding*. Kitchener, Ontario: Batoche Books
- Macgregor, S. K., & Lou, Y. (2004). Web-based learning: How task scaffolding and website design support knowledge acquisition. *Journal of Research on Technology in Education*, 37(2), 161-175. <https://doi.org/10.1080/15391523.2004.10782431>

Knowledge Acquisition Among Faculty Members

- Mack, E., & Meadowcroft, J. (Ed.). (2009). *Major conservative and libertarian thinkers: John Locke*. New York: Continuum.
- Maslow, A. (1987). *Motivation and personality*. New York: Harper and Row.
- Mason, R. D., Lind, D. A., & Marchal, W. G. (1999) *Statistical techniques in business and economics*. Boston: Irwin/McGraw Hill.
- Mathew, R. M. (1985). Social analysis of information production and consumption: The new challenges and tasks of third world countries. In A. I. Mikhalov (Ed.), *Theoretical problems of informatics: Social aspects of modern informatics* (pp. 37-47). All Union Institute for Scientific and Technical Information.
- Mayer, R. (2004). Should there be a three-strike rule against pure discovery learning? The case for guide methods of instruction. *American Psychologist*, 59, 14-19. <http://psycnet.apa.org/doi/10.1037/0003-066X.59.1.14>
- Mesulam, M-M. (1998). From sensation to cognition. *Brain*, 121, 1013-1052. <https://doi.org/10.1093/brain/121.6.1013>
- Michel, S., de Ruiter, J. C., Hogervorst, M., Koller, S., Moerland, R., & Schwaninger, A. (2007). Computer-based training increases efficiency in x-ray image interpretation by aviation security screeners. *Proceedings of the 41st Carnahan Conference on Security Technology, Ottawa, Ontario*. <https://doi.org/10.1109/CCST.2007.4373490>
- Miller, L. M. (2009). Age differences in the effects of domain knowledge on reading efficiency. *Psychology and Aging*, 24(1), 63-74. <https://doi.org/10.1037/a0014586>
- Mizen, P. (2009). *Knowledge, the new commodity: A study on the knowledge-based economy*. Retrieved from <http://mediaserver.dwpub.com/press-release/9368/Knowledge+-+The+New+Commodity+re.pdf>
- Mohammad, A. H., Abu Hamdeh, M., & Sabri, A. T. (2010). Developing a theoretical framework for knowledge acquisition. *European Journal of Scientific Research*, 42(3), 453-463.
- Nemani, R. R. (2010). The role of computer technologies in knowledge acquisition. *Journal of Knowledge Management Practice*, 11(3), 1-12. Retrieved from <http://www.tlinc.com/articl235.htm>
- Nonaka, I., & Toyama, R. (2003). The knowledge-creating theory revisited: Knowledge creation as a synthesizing process. *Knowledge Management Research & Practice*, 1, 2-10. <https://doi.org/10.1057/palgrave.kmrp.8500001>
- Norusis, M. J. (1999). *SPSS 9.0 guide to data analysis*. New Jersey: Prentice Hall.
- Parker, K. I. (2004). *Biblical politics of John Locke*. Waterloo, Ontario: Wilfrid Laurier University Press.
- Paterson, K. B., McGowan, V. A., & Jordan, T. R. (2013). Filtered text reveals adult age differences in reading: evidence from eye movements. *Psychology and Aging*, 28(2): 352-364. <https://doi.org/10.1037/a0030350>
- Patitungkho, K., & Deshpande, N. J. (2005). Information seeking behaviour of faculty members of Rajabhat Universities in Bangkok. *Webology*, 2(4), 20. Retrieved from <http://www.webology.org/2005/v2n4/a20.html>
- QS Intelligence. (2018). QS university rankings: Arab Region 2016. Retrieved from <http://www.topuniversities.com/university-rankings/arab-region-university-rankings/2016#sorting=rank+region+=+country=136+faculty+=+stars=false+search=>
- Rock, I., & Plamer, S. (1990). The legacy of gestalt psychology. *Scientific American*, 263(6), 48-61. <https://doi.org/10.1038/scientificamerican1290-84>
- Rogers, C. R. (1980). *Freedom to learn for the 80s*. New York: Free Press.
- Ruhi, U., & Al-Mohsen, D. (2015). Enterprise 2.0 technologies for knowledge management: Exploring cultural, organizational and technological factors. *Journal of Organizational Knowledge Management*, 2015, 1-21. Retrieved from <http://ibimapublishing.com/articles/JOKM/2015/789394/789394.pdf>
- Saat, R. M. (2004). The acquisition of integrated science process skills in a web-based learning environment. *Research in Science & Technological Education*, 22(1), 23-40. <https://doi.org/10.1080/0263514042000187520>
- Salisbury, M. (2008). From instructional systems design to managing the life cycle of knowledge in organizations. *Performance Improvement Quarterly*, 20(3), 131-145. <https://doi.org/10.1002/piq.20007>

- Sharma, A. K., & Singh, S. P. (2005). Reading habits of faculty members in natural sciences: A case study of University of Delhi. *Annals of Library and Information Studies*, 524(4), 119-123.
- Shuva, Z. N., & Taisir, R. (2016). Faculty members' perceptions and use of open access journals: Bangladesh perspective. *International Federation of Library Associations and Institutions*, 42(1), 36-48.
<https://doi.org/10.1177/0340035216628879>
- Siemens, G. (2004). *Connectivism: A learning theory for the digital age*. Retrieved from <http://devrijeruiimte.org/content/artikelen/Connectivism.pdf>
- Smolle, J., & Reibnegger, G. (2007). Knowledge acquisition through computer-based training: Histology of the skin in basic medical education. *Twentieth IEEE International Symposium on Computer-Based Medical Systems (CBMS'07)* (pp. 1-6). <https://doi.org/10.1109/CBMS.2007.65>
- Soltero, A. B., Valenzuela, M. B., Schmitz, G. S., Rubio, F. M., & Mendez, T. P. (2006). Knowledge audit methodology with emphasis on core processes. *European and Mediterranean Conference on Information Systems (EM-CIS), Costa Blanca, Alicante, Spain*. Retrieved from <http://www.iseing.org/emcis/emcis2006/Proceedings/Contributions/C20/CRC/EMCIS%20KAMCP%20Final.pdf>
- Soman, K. N. (2001). *A study of the scientific productivity and information use pattern of scientists in the context of new information technology with special reference to universities in Kerala*. Thesis submitted to the Department of Library and Information Science, University of Calicut, India.
- Sunasse, N. N., & Sewry, D. (2002). A theoretical framework for knowledge management implementation. *Proceedings of the 2002 annual research conference of the South African Institute of Computer Scientists and Information Technologists on Enablement Through Technology (SAICSIT), Port Elizabeth, South Africa*, 235-245.
- Takeuchi, H., Taki, Y., Sekiguchi, A., Nouchi, R., Kotozaki, Y., Nakagawa, S., & Kawashima, R. (2015). Brain structures in the sciences and humanities. *Brain Structure & Function*, 220(6), 3295-3305.
<https://doi.org/10.1007/s00429-014-0857-y>
- Tenopir, C. (2011). Beyond usage: Measuring library outcomes and value. *Library Management*, 33(1/2), 5-13.
<https://doi.org/10.1108/01435121211203275>
- Tenopir, C., King, D. W., & Bush, A. (2004). Medical faculty's use of print and electronic journals: changes over time and in comparison with scientists. *The Journal of the Medical Library Association*, 92(2), 233-241.
Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC385305/pdf/i0025-7338-092-02-0233.pdf>
- Tian, J., Nakamori, Y., & Wierzbicki, A. P. (2009). Knowledge management and knowledge creation in academia: A study based on surveys in a Japanese research university. *Journal of Knowledge Management*, 13(2), 76-92.
<https://doi.org/10.1108/13673270910942718>
- Tomei, L. (2009). *Lexicon of online and distance learning*. Maryland: Rowman & Littlefield Education.
- UNESCO (2005). *Towards knowledge society*. Paris: UNESCO.
- Welbourne, M. (2001). *Knowledge*. Durham, UK: Acumen
- Wellman, J. L. (2009). *Organizational learning*. Basingstoke: Palgrave Macmillan.
<https://doi.org/10.1057/9780230621541>
- Wieringa, T. (2010). *Trends in knowledge management*. Retrieved from http://www.greenchameleon.com/gc/blog_detail/trends_in_knowledge_management/

BIOGRAPHIES



Abdoulaye Kaba is Library Director of Al-Ain University of Science & Technology, Al Ain, United Arab Emirates. He has many years of experience in academic librarianship. Kaba has published many papers in peer-reviewed journals and presented papers in the international conferences. His research interests include library management, knowledge management, and information literacy. He can be contacted at kaba.abdoulaye@aau.ac.ae or Kaba_abdoulaye@yahoo.com



Dr Chennupati K. Ramaiah is working as the Dean, School of Media and Communication, Dean (i/c), School of Performing Arts and Professor at the Department of Library and Information Science at Pondicherry University, Puducherry. Prior to that, he worked as Professor and Head in the same Department from 2010-2013 and before that he also worked as Professor and Head, Department of Library and Information Science and University, Librarian at Dravidian University, Kuppam from 2008-2010. He worked as an Assistant Professor for 6 years with Nanyang Technological University, Singapore from 1999-2005. Prior to that, Dr Ramaiah was Deputy Director at DESIDOC, Delhi and worked for 14 years with DRDO. He was a Commonwealth Scholar for doing PhD in

UK in the field of Information Science in England during 1989-1993. His formal education includes Masters degrees in Chemistry and Library and Information Science. He is a Fellow of the Society of Information Science, and member of many international professional bodies/societies. He has published over 125 papers and 5 books. His areas of interests include multimedia and hypertext technologies, human-computer interaction, user interfaces, designing e-books, e-publishing, e-learning, archival informatics, and bibliometric.

Address for communication: Dr. Chennupati K. Ramaiah, Dean, School of Media and Communication & Professor, Dept. of Library and Information Science, Pondicherry University, R.V. Nagar, Kalapet, PUDUCHERRY- 605 014. INDIA. Email: ckramaiah.lis@pondiuni.edu.in or ckramaiah@gmail.com