

# A COMPARATIVE STUDY OF KNOWLEDGE MANAGEMENT PRACTICES ON ACADEMIC PERFORMANCE IN JIMMA AND ADAMA SCIENCE AND TECHNOLOGY UNIVERSITIES

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## Abstract

Knowledge management (KM) and its practices, such as generation, codification, sharing, and utilization, are critical for academic performance. There is plenty of knowledge, but it is not examined in the education sector. The main objective of the study was to conduct a comparative study of knowledge management practices and academic performance in Jimma and Adama Science and Technology universities. A mixed method was used, including a cross-sectional survey with a questionnaire and an interview. A questionnaire was distributed to 290 respondents in both universities. Out of these, 250 were returned, and the response rate is 86%. Descriptive statistics like mean, standard deviation, frequencies, and percentages and an inferential statistical t-test (independent sample t-test) were used. The study found that there is a significant difference between two universities in four knowledge management practices ( $p < .05$ ). However, there is no significant difference in academic performance exhibited by knowledge management practices ( $p > .05$ ). All four knowledge management practices were in practice in both universities. Knowledge management practices should not be done only among individuals but also between different institutions. To further advance the academic activities of staff like teaching and research, there should be a regular forum for knowledge management practices.

**Keywords:** Knowledge management practices, Academic performance, Research, Teaching, University

**DOI:** 10.7176/IKM/14-2-07

**Publication date:** October 30th 2024

## 1. Introduction

Knowledge is an intangible asset which is quite different from tangible assets. It has the aspect of public goods which means the consumption by someone does not reduce the amount left for another. This is also true for scientific knowledge (Nonaka & Teece, 2001) and according to Muhammad et al. (2011), it is the most important capital in present day and the success of any organization depends on its use. Many organizations adopt knowledge management (KM) to improve their performance. The goal of KM is to improve an organization's performance through the improvement and sharing of organizational knowledge. KM promotes an integrated approach to identifying, capturing, retrieving, sharing, and evaluating an enterprise information asset. The success of organizations is strongly related to managing knowledge (Yap et al., 2010), and as pointed out by Muhammad et al. (2011), KM is one of the most important fields in these days to improve the organization's

performance. Its practices such as knowledge generation, codification, sharing and utilization have a significant importance for academic performance. Higher education institutions prepare a new generation with the skills, cultural and scientific literacy, flexibility, and capacity for critical inquiry and moral choice necessary to make their own contribution to society. To achieve these educational systems must perpetually reinvent and remain relevant and innovative by implementing new technologies and using a relevant and adoptable knowledge base. To be able to grow, higher education institutions (HEIs) become the key in promoting KM on both institutional and individual levels. According to Rahel & Ermisa (2011), individuals make their own investigation or research to solve personal or unique problems since knowledge is in one of the four spaces: individual, community, corporate, or public. Therefore, organization and individuals have roles to facilitate the creation, transfer, and regeneration of knowledge. Starting from its introduction, KM is inevitable from the activities of higher education institutions because of today's social and economic changes in the knowledge economy (Arsenijevic, 2011). Like other sectors such as business and industrial, educational sector is also affected by the rapid changes in the business environment. Profound changes resulting from the emerging competitive business environment have made higher education institutions (HEIs) and universities to think the same way like business organizations. In the information/knowledge age, knowledge is the key resource. Today, the problem is not how to find information, but how to manage it. In the information/knowledge age, knowledge is the key resource. Today the problem is not how to find information, but how to manage it. So, organizations view KM as a critical success factor in today's dynamic environment (Zwain, 2012).

Universities in educational sectors are the main instruments of society in the constant pursuit of knowledge. KM in educational settings should provide a set of designs for linking people, processes, and technologies and discuss how organizations can promote policies and practices that help people share and manage knowledge. There are two types of knowledge involved in higher education settings: academic knowledge and organizational knowledge. The capitalization of collective knowledge begins with sharing in knowledge communities. This starts with individuals, through teams and groups, to organizations. Individual strategy mainly deals with the teacher's individual professional growth. KM helps teachers develop their teaching ability, skill and experience through e-learning, teaching portfolio, and research (Yeh, 2005). Rowley (2000) stated that "Higher education institutions are in the knowledge business, since they are involved in knowledge creation and dissemination and learning." According to Ramachandran et al., (2009), HEIs by nature are knowledge-intensive organizations where they are recognized to be in the knowledge business because knowledge production, distribution and application are ingrained in the institution. Knowledge, in this case, is both an HEI's main production factor as well as its final product. Hence, KM, which has been long established in business, must also be established in the education sector as society moves from the industrial to the knowledge age to improve teaching and learning, and to provide a strong knowledge base for research-based practices and strategies that will be much need for KM in education as there is in industries. KM research in this area is rare even for-profit organization, let alone education sector particularly in Ethiopia. Assessment of its presence in education, the development methodology of it, consists of very few, unrelated and occasional efforts, small in extent and mostly in a form of case study (Arsenijevic, 2011).

## 2. Research Questions

- ◆ Is there a significant difference in knowledge management practices among academic staffs of Jimma University and Adama Science and Technology University?
- ◆ Is there a significant difference in academic performance exhibited by knowledge management practices among academic staffs of Jimma University and Adama Science and Technology University?

## 3. Objective of the study

To answer the above research questions, the general objective was to compare the Knowledge management practices and the Academic Performance exhibited by knowledge management practices among Jimma University and Adama Science and Technology University academic staffs.

The specific objectives were:

- ◆ To find out the significant difference in knowledge management practices among the academic staffs of Jimma university and Adama Science and Technology University and
- ◆ To find out the significant difference in academic performance exhibited by both academic staffs of Jimma university and Adama Science and Technology University.

## 4. Literature Review

Knowledge management is a key factor in improving the academic performance of higher education institutions. This literature review aims to explore the existing knowledge management practices focusing on comparative study involving university that impacts academic performance of faculty specifically in Ethiopia. Knowledge management practices (KMPs) is the practical aspects of knowledge management. It includes four key steps such as creating or generating knowledge, representing or storing knowledge, accessing or using or re-using knowledge and disseminating or transferring knowledge (Muhammad et al., 2011; Saqib et al., 2017).

### 4.1. Knowledge management in higher education institutions (HEIS)

Nowadays higher education institutes distinguish their ability and come to standings with their moving role in society. The goal of any organization is to improve their performance in all aspects of their activities. Literature indicates that the role of knowledge management is greater for any organization to attain a high level of performance (Saeed et al., 2022). As stated by (Saqib et al., 2017) is a tool used to achieve competitive advantage of an organization, their performance and maintain their existence in this era. According to (Nunes et al., 2017) Higher education institutions as knowledge producers, they are challenged with how to manage it especially in developing countries, Ethiopia. To overcome this challenge knowledge management (KM) tools and techniques have been suggested to make use of HEIs knowledge resources in accordance with the demands of the time.

Zwain et al., (2012) in their research studied the relationship between knowledge management and academic performance with the variables such as knowledge identification, acquisition, storage, sharing and application and with the variables of academic performance classes of degrees, graduation rates and academic status who found the positive and significant correlation between knowledge management processes and academic performance in Iraqi HEIs and also in other research which studied about the relationship between knowledge

management processes and academic performance, they also identified variables like academic status, undergraduate wastage rate, classes of degrees and graduation rates as indicators of academic performance and knowledge identification, acquisition, storage, sharing and application who found that Iraqi HEIs can benefit from KM processes and all processes of KM have significant correlations with academic performance measures. According to Jameel & Ahmad, 2019 academic performance indicators such as teaching, research, service and satisfaction of academic staff identified and studied with the leadership behavior with the variables like transformational leadership behavior and transactional leadership behavior. It is also about relationship and found that there is positive relationship between leadership behavior and academic performance in higher education. Muhammad et al. (2011) studied the relationship between knowledge management practices and academic performance. Knowledge management practices variables like knowledge generation, codification, sharing and utilization were studied and found that knowledge management practices namely knowledge generation, knowledge codification, knowledge sharing and knowledge utilization had a positive and significant relationship with academic performance.

Thus, by depending on these literatures the researcher come up with the knowledge management practices such as knowledge generation, codification, sharing and utilization and academic performance indicators like teaching and research activities to conduct the comparative study. Therefore, the aim of this study was to compare knowledge management practices and academic performance in selected public institution of higher learning in Ethiopia.

## **5. Methodology**

### **5.1. Research design**

The research design employed for this research was a cross-sectional survey research. A cross-sectional study used to see similarities and differences among people or groups within a particular point of time and involves an analysis of phenomena under investigation. The researcher selects cross-sectional survey design because the data was collected at a single point in time. According to Wilkinson (2000), the survey is used to gather data from large population to comprehend the nature of data collection and analysis.

### **5.2. Research method**

This study followed mixed method (quantitative and qualitative) of study approaches or methods-quantitative and qualitative research approaches. Quantitative research methods include surveys, structured interviews, laboratory experiments and non-participant observation of the method of data collection. It is highly structured and produces data that are amenable to statistical analysis, presents findings in numerical form and generates quantitative data for analysis. It is not necessary to use only one research method, although many projects do this. Qualitative data collection includes participant observation, unstructured interviews, or life histories. The resulting data presented in the form of quotations or descriptions, even though some statistics presented. A combination of methods can be desirable as it enables you to overcome the different weaknesses inherent in all methods (Dawson, 2002)).

### 5.3. Study population

The target population of study was all the academic staff of Jimma university (JU) and Adama Science and Technology University (ASTU). The target population for the study, both quantitative and qualitative involved all academic staffs of JU and ASTU who are holders of MSc. degree and above by using simple random sampling of the lottery method whereby questionnaire was distributed to collect quantitative data. The total population in number is 544 from JU and 627 from ASTU currently serving as faculty deans with experience of academic activities like teaching and research/thesis were selected for interview from both universities. This includes a total of four deans. 2 are from JU and 2 are from ASTU respectively.

### 5.4. Sample size determination

The total number of academic staff of both universities on duty was 1781, out of this, 787 are from JU and 994 are from ASTU at the time when this study was conducted and the total number of master's degree holders and above from both universities was 1171. For a quantitative study to determine sample size a single population proportion/sample error formula was used to take the appropriate sample from academic staff of JU and ASTU using the following formula:

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} \quad \text{where } n_0 = \frac{z^2 pq}{d^2} \dots \dots \dots \text{Cochran (1977).}$$

Where n = the desired sample size of respondents, p= a proportion of the population, Z = confidence level, d = the margin of error, q = 1-p and N= source population.

By substituting 95% confidence interval (CI), Z =1.96, p= 0.5, q= 0.5, e= 0.05, it yields  $n_0 = 384.16 \approx 385$ . Reduced slightly because a given sample size provides proportionately more information for a small population

than for a large population. The sample size ( $n_0$ ) adjusted using equation.  $n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$  Where n= desire

sample size and N=1171 and it gives 290. Thus, 290 respondents selected to be the study participants from both universities. Sample size allocation (proportional allocation for ASTU and JU as first stratum) was done by using the formula. Out of total 1171, 627 are from ASTU and 544 are from JU selected for proportional calculation.

$$n_2 = \frac{n * N_2}{N}, \quad n_2 = \frac{290 \times 544}{1171} = 135 \text{ from Jimma University.}$$

$$n_1 = \frac{n * N_1}{N}, \quad n_1 = \frac{290 \times 627}{1171} = 155 \text{ from Adama Science and Technology University.}$$

### 5.5. Sampling Techniques

Stratified and simple random sampling were employed which is known as stratified simple random sampling. JU and ASTU were 1<sup>st</sup> stratum. The 2<sup>nd</sup> stratum Faculties/Schools and the 3<sup>rd</sup> is Departments. To contact the

individual respondents, the simple random sampling with the lottery method was used. For quantitative study simple random sampling of lottery method was used to give response to the distributed questionnaire. Lottery method is a very popular method of taking a random sample. The selection of respondents depends entirely on chance. For qualitative study purposive sampling method, those who are currently experience of guiding academic activities or teaching and convenient for researcher in terms of time and effort were selected for interview from both universities. Simple random sampling as stated by Kothari (2004) each element of the population has an equal chance of being included in the sample and has the same probability of being selected and if sample to be taken is from heterogeneous population, the stratified sampling method is appropriate. In this case the population categorized or stratified into non-overlapping groups and sample taken from each group. If the sample from each stratum is by simple random sampling the whole procedure first stratification and then simple random sampling, is known as stratified random sampling.

### **5.6. Data collection instruments**

The data collection tools used for this study were questionnaire and semi-structured interview. The type of data sources used for this study was primary data. The primary data were the information obtained from respondents by questionnaire and semi-structured interview. A questionnaire was used to collect quantitative data used for quantitative method. Semi-structured interview was used for qualitative data and qualitative method – the method of analyzing by organizing and narrating interview data. It was used to support and explore the data that is not obtained by quantitative method.

### **5.7. Data processing and analysis**

The analysis tool for this study was IBM SPSS Statistics 20 (version 20). To analyze qualitative data the thematic analysis method was used to write up the result of qualitative analysis. The data obtained by questionnaire was organized, cleaned and coded for analysis. The data were analyzed by inferential statistics, independent sample t-test to compare and answer research questions by using the data/information gathered from academic staffs of JU and ASTU.

## **6. Results**

### **6.1. Knowledge management practices**

Knowledge Management Practices for this study includes four major parts used to identify the practices of Knowledge Management by academic staffs, namely knowledge generation, codification, sharing and utilization.

#### **6.1.1. Knowledge generation practices difference**

An independent-sample t test analysis was conducted to compare the mean scores of the JU and ASTU groups and found a significant difference between the means of the two groups on 5 items among six items as presented in table 1. The test was conducted on item, acquiring new knowledge by internal training and seminars to fill the gap of knowledge in university and there is a significant difference between the means of the two groups ( $t(200.573) = -3.022, p = 0.003, 2$  tailed). The mean of the JU was significantly lower ( $M = 3.49, SD = 1.293$ )

than the mean of the ASTU (M 3.92, SD=0.903). The same test was conducted on item, participate in the communities of practices to gain new knowledge in the department, college or university and showed a statistically significant difference between the means of the two groups on item ( $t(243) = -5.123$ ,  $p = 0.005$ , 2 tailed). The mean of the JU was significantly lower (M = 2.72, SD = 1.281) than the mean of the ASTU (M =3.58, SD =1.346). The other item for statistical test was conducted on is: communicate and discuss with the academic staffs to obtain new knowledge how to conduct a research and found a significant difference between the means of the two groups ( $t(242.991) = 3.600$ ,  $p = 0.040$ , 2 tailed). The mean of the ASTU is significantly lower (M =3.20, SD =1.361) than the mean of the JU (M =3.79, SD =1.210). On item, Having the habit of capturing, organizing and keeping new knowledge obtained from intranet and video conference for use, the test is also conducted and showed a significant difference between the means of the two groups ( $t(243) = 6.712$ ,  $p = 0.030$ , 2 tailed). The mean of the ASTU is significantly lower (M =2.30, SD =1.292) than the mean of the JU (M =3.43, SD =1.332). The last item is: Make exit interview with departing staff to capture new knowledge, the test was conducted and found a significant difference between the means of the two groups ( $t(242.51) = -3.658$ ,  $p = 0.001$ , 2 tailed). The mean of the JU is significantly lower (M =2.51, SD =1.238) than the mean of the ASTU (M =3.12, SD =1.339). The test was also conducted on item, Participate on training given in other higher learning institution (e.g. Universities or colleges) to create new knowledge, no significant difference was found ( $t(243) = .908$ ,  $p = 0.365$ , 2 tail ). The mean of the JU (M =2.46, SD =1.279 ) was not significantly different from the mean of ASTU (M =3.58, SD =1.352). One of the key informants from JU said that “knowledge creation is being done haphazardly. This is usually in the form of hard copies not yet started in the form of electronic but from ASTU One of the interviewees said that “academic staffs create/gain new knowledge from the Internet and books namely e-book and hard copy and multimedia-different sources of media/communications like YouTube video and video conferences. This indicates the practices difference that generate the new knowledge”

**Table 1: Knowledge generation practices**

Knowledge generation practices								
S/N	Items	Group	Mean	SD. Deviation	t- value	df	Sig. 2 tail	Remark
1	Acquiring new knowledge by internal training and seminars to fill the gap of knowledge in university	JU	3.49	1.293	-	200.573	.003	S
		ASTU	3.92	.903				
2	Participate in the communities of practices to gain new knowledge in the department, college or university	JU	2.72	1.281	-	243	.005	S
		ASTU	3.58	1.346				
3	Participate on training given in other higher learning institution (e.g. Universities or colleges) to create new knowledge	JU	2.46	1.279	.908	243	.365	NS
		ASTU	2.31	1.352				
4	Communicate and discuss with the academic staffs to obtain new knowledge how to conduct a research	JU	3.79	1.210	3.600	242.991	.040	S
		ASTU	3.20	1.361				
5	Having the habit of capturing, organizing and keeping new knowledge obtained from intranet and video conference for use	JU	3.43	1.332	6.712	243	.030	S
		ASTU	2.30	1.292				
6	Make exit interview with departing staff to capture new knowledge	JU	2.51	1.238	-	242.51	.001	S
		ASTU	3.12	1.339				

### 6.1.2. Knowledge codification practices difference

An independent-sample t-test analysis was conducted to compare mean scores of the JU and ASTU groups and found a significant difference between the means of the two groups on all 5 items (table 2). Among these, the 1<sup>st</sup> item test was conducted on is: Documenting tacit (knowledge in mind) in the form of explicit (knowledge in the written form) on computer, and a significant difference was found between the means of the two groups ( $t(243) = 0.315$ ,  $p = 0.031$ , 2 tailed). The mean of the JU is significantly lower ( $M = 2.21$ ,  $SD = 1.119$ ) than the mean of the ASTU ( $M = 2.52$ ,  $SD = 1.083$ ). The 2<sup>nd</sup> item is about retaining new knowledge gained from internal training and presentation in the electronic database and also it showed a significant difference between the means of the two groups ( $t(243) = 2.43$ ,  $p = 0.016$ , 2 tailed). The mean of the JU is significantly lower ( $M = 1.94$ ,  $SD = 0.978$ ) than the mean of the ASTU ( $M = 2.23$ ,  $SD = 0.921$ ). The 3<sup>rd</sup> item is about protect higher learning institution from loss of knowledge by uploading documented knowledge through e-mail and Facebook and it also revealed a significant difference between the means of the two groups ( $t(243) = -1.07$ ,  $p = 0.026$ , 2 tailed). The mean of the ASTU is significantly lower ( $M = 2.37$ ,  $SD = 1.224$ ) than the mean of the JU ( $M = 2.54$ ,  $SD = 1.301$ ). The 4<sup>th</sup> item is: Store new and existing knowledge in knowledge repositories created by individual academic schools/colleges and it showed a significant difference between the means of the two groups ( $t(227.13) = -1.363$ ,  $p = 0.013$ , 2 tailed). The mean of the ASTU is significantly lower ( $M = 2.26$ ,  $SD = 1.271$ ) than the mean of the JU ( $M = 2.47$ ,  $SD = 1.101$ ). The 5<sup>th</sup> and the last item is: Participate in training and mentoring to capture new knowledge and codify electronically on a computer and it also revealed a significant difference between the means of the two groups ( $t(243) = 1.116$ ,  $p = 0.025$ , 2 tailed). The mean of the JU is significantly lower ( $M = 2.32$ ,  $SD = 1.353$ ) than the mean of the ASTU ( $M = 2.50$ ,  $SD = 1.287$ ).

**Table 2: Knowledge codification practices**

Knowledge codification practices								
S/ N	Items	Group	Mean	SD. Deviation	t-value	df	Sig. 2 tail	Remark
1	Documenting tacit (knowledge in mind) in the form of explicit (knowledge in the written form) on computer	JU	2.21	1.119	.315	243	.031	S
		ASTU	2.52	1.083				
2	Retaining new knowledge gained from internal training and presentation in the electronic database	JU	1.94	.978	2.43	243	.016	S
		ASTU	2.23	.921				
3	Protect higher learning institution from loss of knowledge by uploading documented knowledge through e-mail and Facebook	JU	2.54	1.301	-1.07	243	.026	S
		ASTU	2.37	1.224				
4	Store new and existing knowledge in knowledge repositories created by individual academic schools/colleges	JU	2.47	1.101	-1.363	227.13	.013	S
		ASTU	2.26	1.271				
5	Participate in training and mentoring to capture new knowledge and codify electronically on a computer	JU	2.32	1.353	1.116	243	.025	S
		ASTU	2.50	1.287				



### 6.1.3. Knowledge sharing practices difference

Knowledge sharing practices were tested and analyzed based on six items indicated in table 3. An independent-sample t-test analysis was done to compare the mean scores of the JU and ASTU groups and found a significant difference between the means of the two groups on all 6 items. The 1<sup>st</sup> item is: Sharing of teaching materials through e-mail and intranet to colleagues and it revealed a high significant difference between the means of the two groups ( $t(243) = 4.092$ ,  $p = 0.001$ , 2 tailed). The mean of the JU is significantly lower ( $M = 3.55$ ,  $SD = 1.403$ ) than the mean of the ASTU ( $M = 4.03$ ,  $SD = 1.220$ ). One of the interviewee from JU said that “knowledge in the form of soft-copy dumped on simple server in my college and shared through email and intranet access provided. This is accessed by anybody who wants to access it freely at any time including students but one of the key informants from ASTU said that “there is a weak intranet connection which hinders/ make slow the sharing of knowledge among academicians. The 2<sup>nd</sup> item is: Knowledge resource shared by phone and Facebook in department/college/university and it showed a significant difference between the means of the two groups ( $t(225.511) = -1.988$ ,  $p = 0.048$ , 2 tailed). The mean of the JU is significantly lower ( $M = 3.60$ ,  $SD = 1.262$ ) than the mean of the ASTU ( $M = 3.90$ ,  $SD = 1.077$ ). The 3<sup>rd</sup> item is: Actively sharing research materials/results by Internet and groupware and it showed a significant difference between the means of the two groups ( $t(243) = 2.856$ ,  $p = 0.005$ , 2 tailed). The mean of the ASTU is significantly lower ( $M = 2.53$ ,  $SD = 1.331$ ) than the mean of the JU ( $M = 3.00$ ,  $SD = 1.228$ ). The 4<sup>th</sup> item is: Distribute information and knowledge in the department/university educational training process and knowledge base systems and it revealed a significant difference between the means of the two groups ( $t(241.254) = -2.073$ ,  $p = 0.039$ , 2 tailed). The mean of the JU is significantly lower ( $M = 2.29$ ,  $SD = 1.058$ ) than the mean of the ASTU ( $M = 2.60$ ,  $SD = 1.304$ ). The 5<sup>th</sup> item is: Sharing and using course materials from colleagues in the department through email and it revealed a significant difference between the means of the two groups ( $t(227.488) = -2.857$ ,  $p = 0.005$ , 2 tailed). The mean of the JU is significantly lower ( $M = 3.55$ ,  $SD = 1.403$ ) than the mean of the ASTU ( $M = 4.03$ ,  $SD = 1.220$ ). The last and the 6<sup>th</sup> item is: Participation in workshop, seminar, and panel conducted in my department, college and university and it showed high a significant difference between the means of the two groups ( $t(242.631) = 5.236$ ,  $p = 0.001$ , 2 tailed). The mean of the ASTU is significantly lower ( $M = 3.15$ ,  $SD = 1.370$ ) than the mean of the JU ( $M = 4.03$ ,  $SD = 1.260$ ).

**Table 3: Knowledge sharing practices**

Knowledge sharing practices								
S/N	Items	Group	Mean	SD. Deviation	t-value	df	Sig. 2 tail	Remark
1	Sharing of teaching materials through e-mail and intranet to colleagues	JU	3.55	1.403	4.092	243	.001	S
		ASTU	4.03	1.220				
2	Knowledge resource shared by phone and Facebook in department/college/university	JU	3.60	1.262	-1.988	225.511	.048	S
		ASTU	3.90	1.077				
3	Actively sharing research materials/results by Internet and groupware	JU	3.00	1.228	2.856	243	.005	S
		ASTU	2.53	1.331				
4	Distribute information and knowledge in the department/university educational training process and knowledge base systems	JU	2.29	1.058	-2.073	241.254	.039	S
		ASTU	2.60	1.304				
5	Sharing and using course materials from colleagues in the department through email	JU	3.55	1.403	-2.857	227.488	.005	S
		ASTU	4.03	1.220				
6	Participation in workshop, seminar, and panel conducted in my department, college and university	JU	4.03	1.260	5.236	242.631	.001	S
		ASTU	3.15	1.370				

**6.1.4. Knowledge utilization practices difference**

To measure the practices of of knowledge utilization differences, six items were used as presented in table 4. On these items an independent-sample t-test analysis was performed to compare the mean scores of the JU and ASTU groups and found a significant difference between the means of the two groups on 5 items among six items. Among these items, the 1<sup>st</sup> one is: Accessing the knowledge stored/documented in Department through group collaboration over network and it revealed a significant difference between the means of the two groups ( $t(242.559) = -2.950, p = 0.003, 2$  tailed). The mean of the JU is significantly lower ( $M = 2.40, SD = 1.138$ ) than the mean of the ASTU ( $M = 2.87, SD = 1.343$ ). The 2<sup>nd</sup> item which is about records, data and logs (record of activities) completed are accessible (e.g., logs, minutes) to you through social networks also showed a significant difference between the means of the two groups ( $t(242.773) = 1.992, p = 0.048, 2$  tailed). The mean of the ASTU is significantly lower ( $M = 2.55, SD = 1.295$ ) than the mean of the JU ( $M = 2.85, SD = 1.295$ ). The 3<sup>rd</sup> item is about Document and files are widely used to make efficient information retrieval between you and others through e-mail/intranet and it showed a high significant difference between the means of the two groups ( $t(220.531) = 4.040, p = 0.001, 2$  tailed). The mean of the JU is significantly lower ( $M = 3.11, SD = 1.462$ ) than the mean of the ASTU ( $M = 3.81, SD = 1.195$ ). The 4<sup>th</sup> item is about all academic information in the department/college/university openly available to everyone by computer networks is revealed showed high a significant difference between

the means of the two groups ( $t(242.965) = -3.799$ ,  $p = 0.001$ , 2 tailed). The mean of the JU is significantly lower ( $M = 2.51$ ,  $SD = 1.202$ ) than the mean of the ASTU ( $M = 3.13$ ,  $SD = 1.343$ ). The 5<sup>th</sup> item is about by knowledge implementation like exit interview with departing person, the loss of key knowledge is prevented and it revealed a significant difference between the means of the two groups ( $t(243) = -2.206$ ,  $p = 0.028$ , 2 tailed). The mean of the JU is significantly lower ( $M = 2.71$ ,  $SD = 1.289$ ) than the mean of the ASTU ( $M = 3.09$ ,  $SD = 1.389$ ). The 6<sup>th</sup> item is about Updating of information and knowledge by practically incorporating new knowledge from the knowledge base of the department/university and no significant difference was found ( $t(221.624) = -0.542$ ,  $p = 0.588$ , 2 tail ). The mean of the JU ( $M = 2.84$ ,  $SD = 1.484$ ) was not significantly different from the mean of ASTU ( $M = 2.94$ ,  $SD = 1.225$ ). However, one of the respondents indicated that “academicians update their knowledge by acquiring knowledge from internal server which implements knowledge usage through intranet”

**Table 4: Knowledge utilization practices**

Knowledge utilization practices								
S/N	Items	Group	Mean	SD. Deviation	t-value	df	Sig. 2 tail	Remark
1	Accessing the knowledge stored/documented in Department through group collaboration over network	JU	2.40	1.138	-2.950	242.559	.003	S
		ASTU	2.87	1.343				
2	Records, data and logs (record of activities) completed are accessible (e.g., logs, minutes) to you through social networks	JU	2.85	1.110	1.992	242.773	.048	S
		ASTU	2.55	1.295				
3	Document and files are widely used to make efficient information retrieval between you and others through e-mail/intranet	JU	3.11	1.462	-4.040	220.531	.000	S
		ASTU	3.81	1.195				
4	All academic information in the department/college/university openly available to everyone by computer networks	JU	2.51	1.202	-3.799	242.965	.000	S
		ASTU	3.13	1.343				
5	By knowledge implementation like exit interview with departing person, the loss of key knowledge is prevented	JU	2.71	1.289	-2.206	243	.028	S
		ASTU	3.09	1.389				
6	Updating of information and knowledge by practically incorporating new knowledge from the knowledge base of the department/university	JU	2.84	1.484	-.542	221.624	.588	NS
		ASTU	2.94	1.225				

## 6.2. Academic performance difference exhibited by knowledge management practices

Academic performance (Teaching and Research) exhibited by knowledge management practices (knowledge generation, codification, sharing and utilization) were studied to measure difference between two groups and the result is indicated in table 5:

The 1<sup>st</sup> grouped item is: Teaching performance exhibited by knowledge generation practices were not revealed a significant difference between the means of two groups ( $t(243) = -0.171$ ,  $p = 0.865$ , 2 tail ). The aggregated mean of the JU ( $M=4.38$ ,  $SD=1.553$ ) was not significantly different from the mean of ASTU ( $M=4.41$ ,  $SD=1.450$ ). The 2<sup>nd</sup> grouped item is: Research performance exhibited by knowledge generation practices and it is not showed a significant difference between the means of two groups ( $t(243) = 1.901$ ,  $p = 0.059$ , 2 tail ). The aggregated mean of the JU ( $M=4.85$ ,  $SD=0.8191$ ) was not significantly different from the mean of ASTU ( $M=4.64$ ,  $SD=0.870$ ). The 3<sup>rd</sup> grouped item is: Teaching performance exhibited by knowledge codification practices were revealed a high significant difference between the means of two groups ( $t(243)=4.181$ ,  $p=0.001$ , 2 tail ). The aggregated mean of the ASTU is significantly lower ( $M=4.30$ ,  $SD =0.7350$ ) than the mean of JU ( $M=4.73$ ,  $SD =.8794$ ). The 4<sup>th</sup> grouped item is: Research performance exhibited by knowledge codification practices and is not revealed a significant difference between the means of two groups ( $t(243)=0.278$ ,  $p=0.782$ , 2 tail ). The aggregated mean of the JU ( $M=4.92$ ,  $SD =1.2645$ ) was not significantly different from the mean of ASTU ( $M=4.87$ ,  $SD=1.2576$ ). The 5<sup>th</sup> grouped item is: Teaching performance exhibited by knowledge sharing practices and it is not revealed a significant difference between the means of two groups ( $t(243) = -1.924$ ,  $p=0.056$ , 2 tail ). The aggregated mean of the JU ( $M=2.86$ ,  $SD =0.69946$ ) was not significantly different from the mean of ASTU ( $M =3.04$ ,  $SD=0.79593$ ). The 6<sup>th</sup> grouped item is: Research performance exhibited by knowledge sharing practices and it is showed a high significant difference between the means of two groups ( $t(144)=12.037$ ,  $p =0.001$ , 2 tail ). The aggregated mean of the ASTU is significantly lower ( $M=2.00$ ,  $SD =.00000$ ) than the mean of JU ( $M=2.95$ ,  $SD=0.85215$ ). The 7<sup>th</sup> grouped item is: Teaching performance exhibited by Knowledge utilization practices is not showed a significant difference between the means of two groups ( $t(241.90)=-.414$ ,  $p=0.348$ , 2 tail ). The aggregated mean of the JU ( $M=4.80$ ,  $SD =1.05298$ ) was not significantly different from the mean of ASTU ( $M=4.86$ ,  $SD =1.27440$ ). The last and the 8<sup>th</sup> grouped item is: Research performance exhibited by Knowledge utilization practices is not showed a significant difference between means of two groups ( $t(243) = 0-.940$ ,  $p =0.348$ , 2 tail ). The aggregated mean of the JU ( $M=4.609$ ,  $SD =0.9243$ ) was not significantly different from the mean of ASTU ( $M =4.723$ ,  $SD =0.9726$ ).

**Table 5: Academic performance difference exhibited by knowledge management practices**

Academic performance difference exhibited by knowledge management practices								
S/N	Items	Group	Mean	SD. Deviation	t-value	df	Sig.2 tail	Remark
1	Teaching performance exhibited by knowledge generation practices	JU	4.38	1.553	-.171	243	.865	NS
		ASTU	4.41	1.450				
2	Research performance exhibited by knowledge generation practices	JU	4.85	.8191	1.901	243	.059	NS
		ASTU	4.64	.870				
3	Teaching performance exhibited by knowledge codification practices	JU	4.73	.8794	4.181	243	.001	S
		ASTU	4.30	.7350				
4	Research performance exhibited by knowledge codification practices	JU	4.92	1.2645	.278	243	.782	NS
		ASTU	4.87	1.2576				
5	Teaching performance exhibited by knowledge sharing practices	JU	2.86	.69946	-1.924	243	.056	NS
		ASTU	3.04	.79593				
6	Research performance exhibited by knowledge sharing practices	JU	2.95	.85215	12.037	144	.001	S
		ASTU	2.00	.00000				
7	Teaching performance exhibited by Knowledge utilization practices	JU	4.80	1.05298	-.414	241.90	.680	NS
		ASTU	4.86	1.27440				
8	Research performance exhibited by Knowledge utilization practices	JU	4.609	.9243	-.940	243	.348	NS
		ASTU	4.723	.9726				

## 7. Discussion

### 7.1. Knowledge management practices difference

The significant difference is found between JU and ASTU groups in knowledge generation practices which p-value for all five items is ( $p < 0.05$ ) except one item which its ( $p > 0.05$ ). The significant difference is also found between JU and ASTU in knowledge codification practices because all items ( $p < 0.05$ ). Moreover, the significant difference is found in knowledge utilization practices between JU and ASTU ( $p < 0.05$ ), and knowledge sharing practices ( $p < 0.05$ ). Therefore, the study found that there is a significant difference between JU and ASTU academic staffs in knowledge management practices. This finding is similar with the study of Ramachandran et al., (2009), who found a significant difference between public and private HEIs on the all six knowledge management process namely knowledge creation, capture, organization, storage, dissemination, and application. Another study also found a significant difference in the perception and experience of knowledge management in

the university between two groups (lecturers and staff) ( Anvari, Alipourian, Moghimi, Baktash, & Mojahed, 2011).

## **7.2. Academic performance difference exhibited by knowledge management practices**

The study found that there is a significant difference in academic performance exhibited by knowledge management practices namely teaching performance based on knowledge codification practices ( $p < 0.05$ ) and research performance based on knowledge sharing practices ( $p < 0.05$ ). In the rest, there is no significant difference namely teaching performance based on knowledge generation practices ( $p > 0.05$ ), research performance based on knowledge generation practices ( $p > 0.05$ ), research performance based on knowledge codification practices ( $p > 0.05$ ), teaching performance based on knowledge sharing practices ( $p > 0.05$ ), teaching performance based on knowledge utilization practices ( $p > 0.05$ ) and research performance based on knowledge utilization practices ( $p > 0.05$ ). Therefore, this study not indicated significant difference between academic staffs of JU and ASTU in academic performance difference exhibited by knowledge management practices. This study is the same with the study done by Alsabbagh & AL Khalil, 2017, who found no significant differences in the extent of knowledge management and Organizational Learning between public and private universities. This study also is in line with the study done by Voon et al., (2011), which found minor differences in teaching and no difference in research and also in line with the study done by Mawoli & Babandako, (2011), who reported that staff performance as it relates to teaching is very high while their performance in the areas of research is moderate.

## **8. Conclusion**

The study found that the four knowledge management practices were in practice both in JU and ASTU because the mean score for all items of each four KM practices were in the range of 1.94 to 4.03 and most items has good mean score. Knowledge sharing in both JU and ASTU showed the maximum highest mean which is 4.03 in relative to knowledge generation, codification and utilization. The mean score of all items of academic performance based on knowledge management practices are range from 2.20 to 4.03. Most items have good mean which indicates the practices of knowledge management practices for academic performance and the study has found a significant difference in knowledge management practices between academic staffs of JU and ASTU. This significant difference is found in knowledge generation practices, sharing, codification and utilization practices. But, minor difference was found on academic performance exhibited by knowledge management practices between JU and ASTU. This is on teaching practices exhibited by knowledge codification and research performance exhibited by knowledge sharing. The rest has not shown statistically significant difference. Therefore, no significant difference is found in Academic performance based on knowledge management practices between JU and ASTU. The findings indicated that universities should emphasize the practices of knowledge management practices namely knowledge generation, codification, sharing and utilization. For further practices of knowledge management there should be knowledge base systems/repositories in universities for the improvement of academic performances namely teaching and research and due attention should be given to practices of knowledge management practices.

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