The Impact of Attitude, Subjective Norm and Information Communications Technology on Knowledge Sharing among Academic Staff

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*Abstract--- Knowledge sharing (KS)is essential to institutional success. however, knowledge sharing within organizations would greatly affect their efficiency, as it stimulates the ability of people to tackle problems within the organization. meanwhile, limited studies have been conducted in the Iraqi context to find the impact on KS among academic staff. **Purpose** of this study to investigate and examine the impact of Attitude, subjective norm and Information communication technology on KS among academic's staff in Iraqi context. **Methodology:** The study conducted at Al- Anbar university among academic staff. 152 valid questioners have been analyzed by Structural Equation Modeling (AMOS), the questioners consisted of four main variables namely: attitude, subjective norm and Information communications technology as for independent variables, while the dependent variable is KS. **Main Findings** indicated that all the three variables have a positive and significant impact on KS among academics' staff. It is necessary for higher education as a whole to have academics with the feeling of sharing their expertise without withholding any element or component owing to self-interest. **Originality/Novelty**: This research helps to enrich the body of Knowledge in Middle East nations especially in Iraq and higher education by examining the influence of knowledge sharing.*

Keywords--- Knowledge Sharing, Subjective Norm, Attitude, ICT, Iraq.

I. INTRODUCTION

Knowledge sharing (KS) is essential to success of organizations. KS within institutions would have a great impact on their performance, as it stimulates individuals ' capacity to address issues and concerns within the institution[13]. Knowledge management success can be expressed in the sharing of information between an organization's staff[9,56]. A critical element of knowledge management is understanding the variables that lead staff to participate in KS behaviors in an organization [56].Like other institutions, the best location for knowledge sharing should be the education institution. Sharing of knowledge is a standard in an academic institution where academic as staff perform it through teaching and learning. KS is reliable on academic staff at universities as soon as they are prepared and share what they understand voluntarily. Meanwhile, the study will exam three factors predict on KS among academics' staff namely: attitude (ATT), subjective norm (SN) and Information Communication Technology (ICT). Several researchers have identified attitude as the "cognitive views" of the employee with respect to the

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implications of undertaking the conduct, whereas the subjective norm is formed by "normative views" with respect to the probability of the strength of the referents to encourage or prevent the specific conduct[43,58]. moreover, Technological features also deserve to be considered and technical assistance considered essential as human assets. ICT has an important role to play in improving the effectiveness of knowledge sharing[32].

Universities are expected to be the big generator of information and knowledge, so they need to engage strongly in KS that can enhance the performance of education and research in terms of their significance to the community, thus contributing to enhanced economic growth[12].

In educational institutions, management is challenged by how to encourage scholars to share. Academics productivity is one of the main weights in the ranking of universities. These productivities include the number of publications, conference participation the involvement in professional bodies, university and community services which highly depend on KS [25].

These actions are regarded to be the productivity of academic staff at universities in the academic framework. KS could increase the academic staff productivity which will positively reflect universities ranking as long as KS has a positive impact on productivity.

Compared to other countries, Malaysia received considerable [22,25, 27,51].meanwhile, there are limited studies related to KS in the education field on the context of Middle East countries [12],and a limited previous study has used this to investigate the effects of KS among academic staff in Iraqi setting [7].Higher education is facing several challenges in emerging nations such as Iraq because it is becoming increasingly global.

The aim of this study to examine the impact of Attitude, Subjective norm and ICT on KS among academic staff at Al Anbar University, Iraq.

II. LITERATURE REVIEW

A. Knowledge Sharing

Knowledge is described as ' information handled by people, including person, team and organizational results thoughts, facts and decisions[56]. Knowledge sharing ' relates within a group of individuals. The group may be formal or informal as long as the individuals engaged in such groups are associated with formal organizations or partners. These groups mainly aim to implement knowledge in order to enhance organizations ' service and efficiency[11,38]. however, KS can be described as a culture of social interaction incorporating the interchange of knowledge, feelings and abilities among individuals throughout the department or organization [1]. Meanwhile, the aim of KS is share expertise from fundamental understanding to specialist understanding in certain fields [57].KS consider essential because it can show the organizations a good public reputation. Therefore, the possibility of inadequate voluntary sharing is expected. The achievement of knowledge management methods depends strongly on habits of KS that occur among an organization's staff[10,11,56]. KS among staff is essential because exchange helps; private mastery by action learning and information preservation [45]. however, KS relates to human operations where they are ready to KS with others in an organization in order to fix issues, create fresh thoughts or implement strategies or processes [56].

B. Theory of reasoned action (TRA)

The TRA method is extensively used as a paradigm for behavioural intent prediction. It has been used in a number of studies in serval field, for example, health field, academic field, marketing and management [19, 43]split beliefs into strong conceptual and distinguishing groups such as behavioural which refers to (attitude) and normative refers to (subjective norms).The planned behavior theory has been developed and varies from the theory of reasoned action model by adding presumed cognitive power built [44]. An apparent cognitive influence such as if a person does not have comprehensive power over the directed conduct is necessary [44].TRA implies that people are reasonable and indicates that their behaviour is affected by three components, which include attitudes, subjective norms and behavioural intent[39]. However, the level to which an information proprietor effectively exchanges their Knowledge with other members of their organization is KS, whereas intention refers to the readiness of an employee to interact with KS[50].the concept of reasoned action (TRA) is a popular concept for social science studies that predicts and explains behavior[52,58]. This theory as well indicates that the purpose of an individual for specific conduct is too determined by the behavioral and subjective norms of an individual [43]. According to [51]this theory has the capacity to forecast employee conduct that is essential to evaluate the approach of a person to the execution of that conduct of KS and This concept involves other important aspects of behavior, such as the subjective norm, to understand the attitude towards behavior.

C. Attitude

Researchers recognized ' attitude ' as a key factor in sharing knowledge [42]. Attitude is an assessment of an individual when a stimulus needs a reaction[34].this demonstrates that the emotions or dispositions of people about sharing knowledge reflect their willingness to participate in the process of KS. In addition, the attitude of a person also affects behaviors[14,40]. According to Liebowitz (2007)the intent to KS is based on the attitude of the person to KS.

D. Subjective Norm

A subjective standard is the conviction that a specific person or organization approves or disagrees with a conduct [3,43].However, Ajzen (1991)Explained the word "subjective norm" is heavily related to social pressure in the conduct of a specific organization where the employees of an individual works. However, Fauzi, et al., (2019)[26] defined SN It is regarded as other people's perception of particular conduct and the perception of several other individuals, including scholarly colleagues, leadership and even the society, that academics could communicate their expertise as it is their key responsibility to provide knowledge. never theless, SN relate to an individual's view of the social stress from key individuals in order to perform a particular behavior or not perform[1].In the sense of sharing conduct of environmental knowledge, subjective norms reflect and the views of individuals as to whether the conduct of KS is endorsed or anticipated by important people around them[1].

E. Information and Communication Technology ICT

ICT can be described as techniques linked to fresh data acquisition, collection, handling, storage and transmission sciences[36,53].According to [34,36]ICT refers to Any technology equipment that can be used to assist

this information's collection, handling, delivery and further use. However, ICT possible to improves the KS by accessing databases in order to obtain information and provide effective communication for the exchange of information and knowledge among peers. Issues may arise with ICT implementation of appropriate technology instruments that should fit between individuals and organizations, but cannot generalize technology tools to all organizations[24,35]. on the other hand, ICT may face potential problems as some members of staff do not recognize or familiarize themselves with the system implemented in the organization, but ICT can provide a good benefit to the organization or institution by easily stored data, exchanging information and other information[31,37].with the increasingly significant position of private electronic equipment and e-business apps, rapid developments in ICT have introduced a fresh dimension to regular lives. While the human element is crucial, it is also worth considering the technological elements. Hendriks (1999)Suggests that ICT may be useful in improving the sharing of knowledge. This could be achieved by reducing temporary and spatial obstacles between knowledge workers and enhancing access to knowledge data. According to[36] the infrastructure and availability consider essential components of ICT.

III. HYPOTHESES DEVELOPMENT

A. *Subjective norm toward knowledge share*

Academics are willing to share their knowledge when others are highly expected to do so. the SN on KS relates to the social pressure (encouragement or discouragement) of institutions, managers and employees judged by an worker in an organization to participate in or execute KS[3,20,43]. Kuo and Young (2008)Observed the intention of the person to KS related to subjective norms and attitude. however, A society in which individual lives or works will shape the behavior of an individual. In education institution the community produces a standard in which the KS has deemed a culture, causing the academics to communicate. If they don't share voluntarily as others do, academics will have adverse ideas and emotions. Accordingly, the subjective norm is regarded as an significant factor for researchers to share their knowledge [27]. Social pressure that promotes staff to behave in the sharing of knowledge determines their willingness to share knowledge [2]. Social pressure that discourages staff from performing conduct of information gathering causes them to be unwilling to KS [2].teaching as a manner of sharing academic knowledge is regarded as a noble work as viewed by society. however, considering to academics' staff as routine work. For ordinary culture, if scientists do not share their knowledge, it seems like a traitor to the profession. Individuals have a normative perception in a social environment that determines the people desire to act in a certain way [45]. meanwhile, Several studies confirmed the impact of SN on KS [20,23, 26,45,52].

H1: Subjective norm has a significant impact on KS among academic staff at Al-Anbar university.

Attitude toward knowledge sharing

Attitude is the main variable in the KS among academics. It is considered the adverse or positive attitude of an individual towards a particular case behavior[3]. [4]have shown that behavior is an important determinant of the desire to share expertise in organizations. Bock et al.(2005) support this, who also states that behavior is a determinant for the KS in organizations that include education institutes. attitudes toward KS refer to the degree to which an individual has a favorable or bad assessment of KS [8].Academics with a favorable attitude to KS will

commit themselves to this attitude, and this attitude is derived from people's inherent convictions about their behavior[27].academics with a positive attitude for KS behaviors will generate a well-rounded person willing to share his\her knowledge at universities with others. However, an academic with a positive attitude towards KS would have a beneficial impact on the intention of sharing. Attitude depends on attitudinal convictions, a belief in and the result of a specific conduct [46]. universities need the motivation and dedication of academic staff with a positive approach in KS. In terms of expenses and time, this favorable approach of attitude will benefit universities without having to urge and establish measures to take scholars out to share their knowledge.

Several studies confirmed the attitude has a significant impact on KS[26,28,39,45,47].on other hand [45] reported attitude has non-significant impact on KS. The study proposes to exam the attitude toward KS in the context of Iraq, in higher education field due to lack of studies has been conducted in this country particularly at universities.

H2: attitude has a significant impact on KS among academic staff at Al-Anbar university.

ICT toward knowledge sharing

Knowledge can be readily communicated through the use of software and hardware with the assistance of ICT infrastructure and accessibility and will also assist staff to acquire, create and transfer information efficiently[53]. the efficiency of the organization and knowledge assets can be controlled by ICT [18].Cabrera and Cabrera (2005)[17] It has indicated that contemporary data and telecoms technology are accessible to promote distance knowledge sharing. However, It has restricted importance because it does not know when and how to improve the standard of KS. on other hand, ICT infrastructure can be expensive, but it can be a useful aid for KS[49].ICT has a significant impact on KS among academics staff at Jordanian universities [12].however,Several studies have been confirmed the impact of ICT on KS in a different field [53,55,57].on other hand, ICT does not impact on KS among academic staff in Malaysia and Niagara[5, 22]. to solve this contradiction, we will examine the impact of ICT among academic staff in the Iraqi context. The study proposes the following hypothesis.

H3: ICT has a significant impact on KS among academic staff at Al-Anbar university.

IV. METHODOLOGY

A. *Sample and Collection of data.*

This study was conducted to examine the impact of KS among academics' staff at Al-Anbar university [6], Iraq. a survey method has been adopted to achieve the objectives of the study. The data was gathered by questionnaire which distributed by self- administrative with a Likert scale of Five point1 = strongly agree and 5 = strongly disagree. The academic staff of Al-Anbar university are involved in this research. population size of university 1674 academic staff. According [41] the sample size should be 313 academic staff and hence 313 questionnaires have been distributed. The received questionnaires were 163 and after final assessment 152 valid questionnaires to analysis Consequently, the response was around 49 %. Data collected were analyzed by Statistical Package for Social Sciences (SPSS) version 23 to find descriptive statistics and Cronbach's Alpha. However, structural equation

modelling SEM, analysis of moment structure (AMOS) version 21 used to measurement model, model fit, model validate and to exam hypothesis path.

B. *Research instrument*

All the survey items in this research were drawn from validated prior research. They have been adopted and adapted to the Iraqi environment. All these items have been reliability and validity adjusted from prior research. Table 2 list the variables of this study and their number of items with the source.

V. RESULTS

A. *Demographic Descriptive.*

In this section the results will starting with demographic characteristics as represented in Table 1. The majority of the respondents Male with 58 % while 42 % are Female. The largest responds for this survey was with age group of 40 to 49 (37 %) and close to this result was with the group of 30 to 39 (30 %) while the young group below 29 years are 8 % and above 60 years 8 %. As expected in Qualifications, most (68 %) of the respondents with Master degree while (32%) hold PhDs degree. A large proportion (55 %) of the respondents Assistant Lecturer while (23%) with Lecturer position, (19%) Assistant Professor and only one (3 %) belong to Professor.

Table 1: Distribution of socio-demographic data of the respondents.

Variables		Frequency	Percentage
Gender	Male	88	58%
	Female	64	42%
Age	less than 29	12	8 %
	30 to 39	46	30 %
	40 to 49	56	37 %
	50 to 59	26	17 %
	above 60	12	8 %
Position	Assistant Lecturer	84	55 %
	Lecturer	34	23 %
	Assistant Professor	29	19 %
	Professor	5	3 %
Qualifications	Master	104	68%
	PhD	48	32 %

Note: N=152

B. *Construct Reliability*

Cronbach's alpha and item-total correlations evaluated the reliability of internal consistency to check unidimensional. The resulting alpha varied from 0.826 to 0.906, higher than[48] appropriate limit (0.70). however, all item-total correlations exceed the Spector (1992)[54] criteria of 0.4, table 2 illustrate all reliability results.

C. *Construct validity*

to examine the convergent validity of each variable, we used confirmatory factor analysis (CFA) by AMOS software. Convergent validity was assessed by examination of the factor loading of each variable, the composite reliability (CR), and Average variance extracted (AVE) by various measures to evaluate the same notion[30]. the results inducted factor loading range between .612(KS1) and.878 (ICT2)greater than recommended 0.5 by[15,29]. however, all variables composite reliability Outweigh the required level of 0.7recommended by [30]. AVE greater than minimum acceptable level of 0.5 [30].Table 2describe convergent construct validity outcomes.

Table 2:Cronbach's Alpha, Item-total correlation, Factor loading Composite reliability and AVE

Construct	items	**Cronbach's Alpha**	Item-total correlation	Factor loading	Composite reliability	AVE	Source adaptation
KS	KS1		.543	.612			
	KS2	.829	.625	.790	0.829		
	KS3		.749	.865		0.535	[45]
	KS4		.457	.676			
SN	SN1		.695	.834			
	SN2		.715	.845			
	SN3	.874	.693	.832	0.851	0.641	[1, 45]
	SN4		.461	.678			
ICT	ICT1		.652	.807			
	ICT2	.826	.770	.878	0.832	0.626	[5]
	ICT3		.453	.673			
ATT	ATT1		.769	.877			
	ATT2		.653	.808			
	ATT3	.906	.720	.849	0.864	0.709	[1,45]
	ATT4		.691	.831			

D. *Model fit*

evaluated by absolute fit measures, the results indicated that all the criteria of model fit acceptable in this study RAMSE = .055, CFI= .967, and. NNFI = 959 which refers to a good model fit [16,30,33] Meanwhile, according to [33]if the GFI rate exceeds 0.90, the RMSEA value less than 0.06, the fit model meets acceptability criteria. However, other goodness-of-fit criteria have been achieved the required levels see table 3.

Table 3: Goodness of fit result

Fit Index	Recommended Criteria	Authors	Results
x2/df	≤5	[30]	1.457
RMSEA	< .08	[16]	.055
NNFI (TLI)	≥.90	[30]	.959
AGFI	≥.80	[30]	.869
CFI	≥.90	[21]	.966
GFI	≥.90	[33]	.905
NFI	≥.90	[21]	.902

Notes: n=152 . CFI, comparative fit index; RMSEA, root mean square error of approximation; GFI = goodness-of-fit index; NFI = normal fit index;IFI = incremental fit index;TLI = Tucker Lewis index;

E. *Path analysis*

we constructed an (SEM) to examine the three hypotheses of the study. All fit indicators (see Figure 1 and table3) match the suggested cutoff values for a fit model (e.g. Hair, et al., 2009).Table 4 below shows the regression weights from the model testing the hypotheses. the regression weights have been used to determine whether, as hypothesized from the literature review, there was an impact of the research factors.
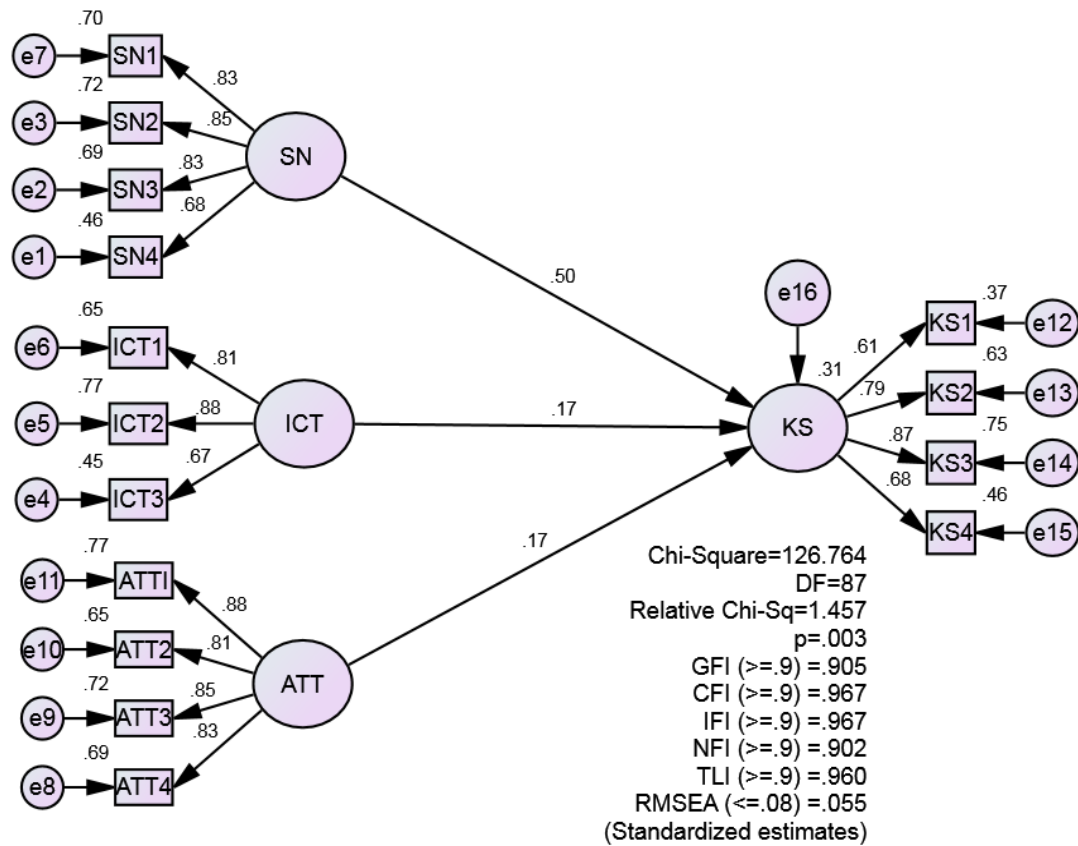
Figure 1: structural model

Table 4:Regression weights of the structural model

H	DV		IV	Estimate	S.E.	C.R.	P	Label
H1	KS	<---	SN	.50	.088	5.69	***	Significant
H2	KS	<---	ATT	.16	.071	2.07	.03	Significant
H3	KS	<---	ICT	.16	.075	1.98	.04	Significant

Note: KS=knowledge sharing, ATT= attitude, SN= subjective norm, ICT= information   communication technology.ρ*** Significant at level 0.001.

The first hypotheses predicted that the effect of the subjective norm is significant. As predicted, the subjective norm has a strong effect on knowledge sharing (β= 0.50, P=0.00). Thus, H1 is Accepted. same result has been reported with [20,23,27,45].The second main hypothesis the effect of attitude to be significant. As expected, the effect is significant (β= 0.16, P=0.03). Thus, H2 is Accepted. same result reported by [26,28,39] which reported attitude significantly impact on KS. Similarly, we predicted that ICT has significant effect on knowledge sharing

among academic staff. Our findings confirmed the hypothesis (β= 0.16, P=0.04). Thus, H3 is Accepted. similar resultsfound with [53,55,57] finding which reported ICT significantly impact on KS.

VI. DISCUSSION

A. *Subjective norm*

SN has a major impact on KS among academics. If they didn't share their knowledge, academics would be embarrassed, while others expect them to. These individuals include leadership, fellow scholars, teachers, society and other stakeholders at the university. Being in noble work as teachers, expectations are strong, unless there is another problem that impedes sharing among academics. other research showed that the subjective norm toward KS among academics is an important variable. This is supported by earlier studies on KS among academics, which demonstrates subjective standard as an important factor [14, 47].social assistance from the organization's executives, agencies, and peers performs a key part in promoting the desire or willingness of staff to KS. An individual who believes in a referent group's perceptions of KS appears to have the desire to share knowledge. On the other hand, an individual who assumes that the referent community does not expect KS conduct determines workers ' willingness to execute KS behavior.

B. *Attitude*

Many will profit from academics ' positive attitude towards KS. Attitude towards KS will be highly inclined to communicate what they understand and the academic experience they have acquired. Attitude is the shape of personal cognitive convictions, a belief in how individuals in certain situations should or should not act [47]. It also represents their positive or negative emotions about the sharing of information or knowledge between members of academic institutions. Several studies confirmed the impact of attitude on KS [14, 25,39, 47]. Positive KS evaluation by an employee can enhance the desire of the employee to KS. The negative evaluation of KS by an employee appears to encourage the unwillingness of staff to participate in the conduct of KS. Academics who have favorable attitudes in KS and perceive that they are in command of KS conduct are preferable to other scholarly applicants. By understanding these characteristics within prospective applicants, universities can conduct KS operations of many academics without making a great deal of effort and pressure in attracting academics from the convenience area.

C. ICT

ICT has a positive and significant impact on KS among academic staff. Same finding reported with [53, 57].ICT is able to enhance the access of academics' staff to knowledge and Elimination of temporal and geographic barriers. ICT and its capacity to diffuse knowledge across distinct university systems can help to deeper understand the complicated university landscape. Use of ICT depends heavily on the method adopted, i.e. customization strategy or codification strategy. however, the growth of networked computers has enabled certain knowledge to be codified, saved and shared more easily and cheaply than ever before. on the other hand, ICT can act as a possible barrier because some people do not know the system and the process.

VII. CONCLUSION

It is essential that university researchers be of the greatest quality. However, getting academics who have high performance is not enough if they are unable, in the higher education society, to communicate and share their knowledge with others. It is necessary for higher education as a whole to have academics with the feeling of sharing their expertise without withholding any element or component owing to self-interest.the results of this research show that all the hypothesis suggested in this research are significant which consists of attitude, subjective norm and ICT toward academics KS. academic is a career in which everyone wants them to communicate understanding without any limitations or prejudices. This research has several theoretical consequences. the research includes extensive determinants for academics KS classified into Attitude, subjective norm and ICT. All these factors help to comprehend the reasons and obstacles leading to KS in Iraqi higher education. In this research, the whole variable evaluated has significantly affect on KS among academic staff. Interdisciplinary research in Iraq is quite recent and has not been completely carried out in other fields by academics.

The theoretical contribution of this research also gives practical consequences to the university as to the importance of knowing the KS model .therefore, the university should provide support for academics and establish innovative climates and norms to develop positive attitudes in the organization in order to enable university staff to share their knowledge.

There are several limitations to the current study that should be recognized. Since only the samples from one public university are used for this research, the results could not be generalized to other universities. The collection of data was limited to one Iraqi public university. Consequently, if we want to look into the same sector in other counties with various national cultures, the results of this study cannot be confirmed.

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