Knowledge Sharing among Academic Staff in the Higher Education Institutions

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***Abstract*—Organizational success relies heavily on knowledge sharing (KS). Having a knowledge sharing philosophy within an organization has a significant impact on its success because it stimulates staff's desire to address the organization's challenges and concerns. This study aims to examine the effect of attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC) on KS among academic staff – the study conducted among academic staff at three private universities located in Erbil. The data were collected by questionnaires method, 163 valid questionnaires analyzed by structural equation modeling, Analysis of Moment Structure after ensuring validity and reliability. The results showed a positive and significant impact of ATT, SN, and PBC on KS among academic staff. As well, PBC had a major impact on KS followed by SN. The university should support academics and establish innovative climates and norms to develop positive ATTs in the organization to enable university staff to share their knowledge.**

***Keywords*—Knowledge sharing, Subjective norms, Attitude, Theory of planned behavior, Theory of reasoned action.**

I. Introduction

For organizations to succeed, knowledge sharing (KS) is crucial. KS within organizations will greatly influence their success as it encourages individuals in the organization to deal with problems and concerns (AlShamsi and Ajmal, 2018). An organization's employees' ability to share information is an indicator of its knowledge management effectiveness (Alaaraj et al., 2018; Wang and Noe, 2010). Understanding the factors that cause employees to engage in KS activities in an enterprise are an essential aspect of information management (Al-Dalawi, 2015; Al-Delawia, 2019; Wang and Noe, 2010). Like other institutions, the best location for KS should be the education institution. Sharing of knowledge is a standard in an academic institution where academic as staff performs 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 examine the prediction on KS among academics' staff based on the theory of planned behavior (TPB) and theory of reasoned action (TRA) dimensions, namely, attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC). Several researchers have identified ATT as the "cognitive views" of the employee concerning the implications of undertaking the conduct, whereas the SN is formed by "normative views" for the probability of the strength of the referents to encourage or prevent the specific behavior (Jasim and Raewf, 2020; Liebowitz, 2007; Zhang and Ng, 2012). Universities are expected to be the big generator of information and knowledge, so they need to engage vigorously in KS that can enhance the performance of education and research in terms of their significance to the community, thus contributing to improved economic growth (Alhawary and Assistance, 2017; Mahmood et al., 2019). In educational institutions, management is challenged by how to encourage scholars to share their knowledge. Academics productivity is one of the leading indicators in the ranking of universities. These productivities include the number of publications, conference participation in professional bodies, university, and community services that highly depend on KS (Jameel and Ahmad, 2020; Massoudi et al., 2020). Most of the Iraqi private or public universities suffering from low rank compared to regional and world universities. Based, improving the KS among academic staff could lead to an increase in the productivity of academic staff and that will increase the universities ranking as long as KS has a positive impact on productivity. In developing countries, most of the

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prior studies conducted in Malaysia (Cheng et al., 2009; Fauzi et al., 2018; Fauzi et al., 2019; Rahman et al., 2015). Meanwhile, limited studies were conducted in Middle East countries (Al-Delawi and Ramo, 2020; Al Delawi, 2019; Alhawary and Assistance, 2017; Mahmood et al., 2019; Massoudi, 2020), particularly among academic staff in the Iraqi setting (Massoudi and Hamdi, 2019; Mousa et al., 2019). The purpose of this study is to examine the impact of ATT, SN, and PBC on KS among academic staff at private universities in Erbil.

II. Literature Review

A. KS

Knowledge is described as "information handled by people, including person, team, and organizational results thoughts, facts, and decisions" (Wang and Noe, 2010). KS relates to a group of individuals. The group may be formal or informal as long as the individuals engaged in such groups are associated with traditional organizations or partners. These groups mainly aim to implement knowledge to enhance organizations' service and efficiency (Alaarj et al., 2017; Javadpour and Samiei, 2017). However, KS can be described as a social interaction culture incorporating the interchange of knowledge, feelings, and abilities among individuals throughout the department or organization (Abd-Mutalib et al., 2017; Ahmad et al., 2021). Meanwhile, KS aims to share expertise from fundamental understanding to specialist understanding in specific field (Massoudi, 2020; Massoudi et al., 2019; Wu and Zhu, 2012). KS considers essential because it can show the organization an excellent public reputation. Therefore, the possibility of inadequate voluntary sharing is expected. The achievement of knowledge management methods depends strongly on the habits of KS that occurs among an organization's staff (Ahmad and Jameel, 2021; Alaarj et al., 2017; Alaarj et al., 2016; Wang and Noe, 2010). KS among staff is essential because exchange helps; personal mastery by action learning and information preservation (Jameel et al., 2021; Mafabi et al., 2017). However, KS relates to human operations where they are ready to KS with others to fix issues, create fresh thoughts or implement strategies or processes (Jameel et al., 2020; Jasim, 2016; Jasim et al., 2020; Wang and Noe, 2010).

B. Underpinning Theories

Many concepts, such as social cognition theory or social capital theory, have been applied to explain knowledge sharing actions (Mousa et al., 2019; Nguyen, 2020). However, TRA and TPB are the most widely used (Nguyen, 2020) since they offer a clear theoretical structure that has been considered the fundamental backbone to explore the variables that influence actions sharing knowledge. Under the control of personal conviction influences and contextual or structural powers, TRA shows the shifts in human behavior (Fishbein and Ajzen, 1981).

According to Ajzen 1991, the TRA consisted of two variables that evaluate intention and thus the output of behavior; and the first aspect is the "ATT" toward behavior, which corresponds to the extent of a behavior's positive ratings or tests. The second element is the SN which refers to the external obligation felt to execute an action in line with expectations. This suggests that whether people feel optimistic or believe that they are supposed to behave, they will be hopeful and more likely to demonstrate the anticipated actions (Jameel et al., 2020; Nguyen, 2020). Human behavior is not only governed by individual intent. Accordingly, TPB was then derived from TRA (Fishbein and Ajzen, 1981). The PBC component was applied to allow for circumstances in which a person loses enough control to demonstrate the target action. Perceived behavioral regulation in TPB refers to perceived ease or challenge in executing an action and is presumed to represent the familiarity and anticipated impediments. Ajzen (1991) indicated if people have strong ATT, SN, and PBC, they would have assertive behavior for KS. TRA and TPB are also used to predict and explain why a person acts out a particular action (Ajzen, 1991).

C. Hypotheses Development

ATT

The ATT toward a particular action is characterized as the favorable or unfavorable appraisal of the individuals' behavior based on a behavioral conviction. An assumption ties activities to specific results or traits, and the cumulative influence of these behavioral assumptions is expressed in the ATT (Ajzen, 1991). Researchers recognized "ATT" as a critical factor in sharing knowledge (Jameel et al., 2020; Kuo and Young, 2008). ATT is an assessment of an individual when a stimulus needs a reaction. This demonstrates that the emotions or dispositions of people about sharing knowledge reflect their willingness to participate in the process of KS. Besides, a person's ATT also affects behaviors (Bock et al., 2005; Kolekofski and Heminger, 2003). According to Liebowitz (2007), the intent to KS is based on the person's ATT to KS. ATT is the primary variable in the KS among academics. It is considered the negative or positive ATT of an individual toward a particular behavior (Ajzen, 1991). Akhavan et al., 2013, have shown that behavior is an essential determinant of the desire to share expertise in organizations. Bock et al. (2005) supported this, who also stated that behavior is a determinant for the KS in organizations that include education institutes. ATTs toward KS refer to the degree to which an individual has a favorable or bad KS assessment (Mousa et al., 2019). Academics with a favorable ATT to KS will commit themselves to this ATT, and this ATT is derived from people's inherent convictions about their behavior (Fauzi et al., 2019). Academics with a positive ATT 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 ATT towards KS would have a beneficial impact on sharing. ATT depends on attitudinal convictions, a belief in, and the result of specific conduct (Mahmod et al., 2005). Universities need the motivation and dedication of academic staff with a positive approach in KS. In terms of expenses and time,

this favorable ATT approach will benefit universities without having to urge and establish measures to take scholars out to share their knowledge. Several studies confirmed that the ATT has a significant impact on KS (Fauzi et al., 2019; Fullwood and Rowley, 2004; Jolaee et al., 2014; Mafabi et al., 2017; Iqbal et al., 2011). On the other hand, Mafabi et al., 2017, reported that ATT has a non-significant impact on KS. The study proposes to examine the ATT toward KS in the context of the Iraqi higher education field due to a lack of studies has been conducted in this country, particularly at universities.

H_1: ATT has a significant impact on KS among academic staff.

SN

It refers to an individual's normative effect on societal expectations and stresses. SN is a belief that a particular individual or association supports or disapproves of specific behavior (Ajzen, 1991; Liebowitz, 2007). Nevertheless, SN relates to an individual's view of the social stress from key individuals to perform a particular behavior or not perform (Al_Duhaidahawi et al., 2020; Al Duhaidahawi et al., 2020). In the sense of sharing conduct of environmental knowledge, SNs reflect and the views of individuals as to whether the conduct of KS is endorsed or anticipated by essential people around them (Abd-Mutalib et al., 2017).

Academics are willing to share their knowledge when others are highly expected to do so. The SN and KS relate to the social pressure (encouragement or discouragement) of institutions, managers, and employees judged by a worker in an organization to participate in or execute KS (Ajzen, 1991; Chatzoglou and Vraimaki, 2009; Liebowitz, 2007). Kuo and Young (2008) observed the person's intention to KS related to SN and ATT. However, a society in which individual lives or works will shape the behavior of an individual. In educational institutions, the community produces a standard in which the KS has deemed a culture, causing the academics to communicate. If they do not share voluntarily as others do, academics will have adverse ideas and emotions. Accordingly, the SN is a significant factor for researchers to share their knowledge (Fauzi et al., 2019b). The social pressure that promotes staff to behave in the sharing of knowledge determines their willingness to share knowledge (Abdillah et al., 2018). The social pressure that discourages staff from performing conduct of information gathering causes them to be unwilling to KS (Al Duhaidahawi et al., 2020; Zhang and Harjan, 2021). Teaching as a manner of sharing academic knowledge is regarded as a noble work as viewed by society. However, knowledge sharing among academic staff is considered 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 (Mafabi et al., 2017). Meanwhile, several studies confirmed SN's impact on KS (Chatzoglou and Vraimaki, 2009; Chennamaneni et al., 2012; Fauzi et al., 2019; Mafabi et al., 2017; Ryu et al., 2003).

H_2: SN has a significant impact on KS among academic staff.

Perceived behavioral control

PBC has supported researchers in several different areas as an external variable in evaluating individuals' potential to behave (Nguyen, 2020). PBC specifically influences the intention, and in situations, where the purpose is kept stable, by getting greater PBC, a person will be able to perform effectively in a behavior. Real sharing is likely to be executed by researchers when services are available, and circumstances are encouraged (Karem et al., 2019; Mahmood et al., 2019; Massoudi, 2020; Raewf and Thabit, 2015; Thabit and Raewf, 2017). It will be a real influence of their actions and have no issues implementing it to get the confidence and notion that I can do this without any barrier. In situations where scholars have learned, they are not in charge, their intention to share would be dampened (Ahmad et al., 2021). PBC depends on individual control theories, where there are beliefs about the presence of variables that promote or discourage a person's actions (Wu and Zhu, 2012). PBC encourages researchers' purpose, as an individual would be inspired to undertake activities that they think could achieve. Wu and Zhu, 2012, indicated that the PBC directly affects behavior. According to Ajzen (1991), PBC is able to enhance and provide a direct relation to purpose and behaviour. Several studies confirmed the impact of PBC on KS (Abdillah et al., 2018; Fauzi et al., 2018; 2019). The study conducted among academic staff in Malaysia concludes the PBC has a positive and significant impact on KS (Fauzi et al., 2019). Another study conducted in the Indian context among academic staff results showed that PBC had a substantial effect on academics' KS (Punniyamoorthy and Asumptha, 2019).

H_3: Perceived behavioral has a significant impact on KS among academic staff.

III. Methodology

A. Sample and Collection of Data

The target population of the current study is the academic staff at three private universities located in Erbil, Kurdistan Region of Iraq. The sample is the academic staff at three private universities, the data collected by questionnaire and sent through a Google Forms. The study deployed simple random sampling. Two hundred questionnaires have been distributed among academic staff, and only 173 returned. The data analyzed by Statistical Package for the Social Sciences version 23 to find descriptive statistics, missing values, outlier, and Cronbach's alpha (CA). However, structural equation modeling and Analysis of Moment Structure version 21 used to assess the measurement and structural model, model fit, model validate, and examination hypotheses. After checking the missing value and the outlier, only 163 questionnaires were valid to analysis

B. Research Instrument

All the instrument items have been adopted from the previous studies, and the questionnaires were measured by a Likert scale of 5-point, 1 = strongly agree and 5 = strongly disagree. Table I depicts the resource of variables items.

Table I: Measurement model outcomes

Construct	Items	Factor loading	CA	CR	AVE	Source
KS	KS1	0.667	0.780	0.750	0.606	(Mafabi et al., 2017)
	KS2	0.811				
	KS3	0.797				
	KS4	0.826				
	KS5	0.772				
SN	SN1	0.981	.948	0.900	0.668	(Abd-Mutalib et al., 2017; Mafabi et al., 2017)
	SN2	0.962				
	SN3	0.902				
	SN4	0.749				
PBC	PBC 1	0.881	0.896	0.879	0.564	(Mafabi et al., 2017)
	PBC 2	0.842				
	PBC 3	0.699				
	PBC4	0.838				
ATT	ATT1	0.814	0.842	0.882	0.545	(Abd-Mutalib et al., 2017; Mafabi et al., 2017)
	ATT2	0.866				
	ATT3	0.914				
	ATT4	0.641				

IV. Results

A. Demographic Descriptive

The results for the demographic are depicted in Table II. The majority of the respondents were male, with 56% while 44% of female. This survey's largest response was with the age group of 30–40 years (45%) and followed by the age between 41 and 50 years (29%) while the young group below 29 years are 5% and above 66 years 7%. As expected in qualifications, most of the respondents held a master degree 57% and close to this holding Ph.D. 43%. The work experiences showed most of the academic staff experiences between 6–10 years and 16–20 years with 28% and close to this responded was between 11 and 15 years 24%. The work experiences between 21 and 25 years were 15%, and finally, only 3% were between 5 years or less and more than 26 years. Most of the respondents were Assistant Lecturer (50%), while (42%) were Assistant Professors, while, only 7% were Lecturer and 3 % were Professors.

C. Measurement Model

The purpose of this step is to measure reliability and validity. First, we examined the factor loadings for each item (Hair et al., 2009) indicated the cutoff level of factor loading 0.6; any value less than this should be removed. Based on Table I, all the items >0.6 as well as the reliability examined by CA and composite reliability (CR), the cutoff level for both criteria 0.7 (Nunnally and Bernstein, 1994), as depicted in Table I, the CA and CR for all the variables >0.7. Thus, reliability has been achieved. Average variance extracted (AVE) should be 5.00 or higher (Hair et al., 2009). It is based on Table I, the AVE for all the construct higher than 0.50.

D. Model Fit

The model fit measured by several indices based on Table III and Fig. 1. All the indices have been achieved except GFI less than the cutoff level 0.90 the GFI result 0.869. However, according to Awang (2014), if three indices have been achieved, we can proceed to the next step.

Table II: Distribution of sociodemographic data of the respondents

Label	Frequency	Percentage
Gender		
Male	92	56
Female	71	44
Total	163	100
Age		
<29 years	8	5
30–40 years	74	45
41–50 years	48	29
51–65 years	21	13
More than 66 years	12	7
Total	163	100
Education		
Master	93	57
Ph.D.	70	43
Total	163	100
How long have you been working in an academic position?		
5 years or less	5	3
6–10 years	45	28
11–15 years	39	24
16–20 years	45	28
21–25 years	24	15
More than 26 years	5	3
Total	163	100
Academic position		
Assistant lecturer	82	50
Lecturer	11	7
Assistant prof.	68	42
Prof.	2	1
Total	163	100

n=163

Table III: Goodness-of-fit result

Fit index	Recommended criteria	Authors	Results
x2/df	≤5	(Hair et al., 2009)	1.731
RMSEA	<0.08	(Byrne, 2001)	0.067
TLI	≥0.90	(Hair et al., 2009)	0.950
CFI	≥0.90	(Chau, 1997)	0.957
GFI	≥0.90	(Hu and Bentler, 1999)	0.869
NFI	≥0.90	(Chau, 1997)	0.905

n=163. CFI: Comparative fit index; RMSEA: Root mean square error of approximation; GFI: Goodness-of-fit index; NFI: Normal fit index; TLI: Tucker–Lewis index

E. Structural Model

This step aims to examine the three proposed hypotheses; Table IV and Fig. 1 depicted the path analysis of the current model.

The first hypothesis aims to find the impact of the ATT of KS among academic staff. The result showed $P = 0.006$, which is <0.05, and the *t*-value (CR) 2.729 higher than 1.96. Thus, H1 is supported. These results align with previous findings (Fauzi et al., 2019; Fullwood and Rowley, 2004; Jolaee et al., 2014).

The second hypothesis confirmed the impact of SN on KS among academic staff due to $P = 0.001 < 0.05$ and the *t*-value (CR) 3.198 higher than 1.96. Thus, the H2 is supported. Similar results were reported (Chatzoglou and Vraimaki, 2009; Chennamaneni et al., 2012; Fauzi et al., 2019; Mafabi et al., 2017).

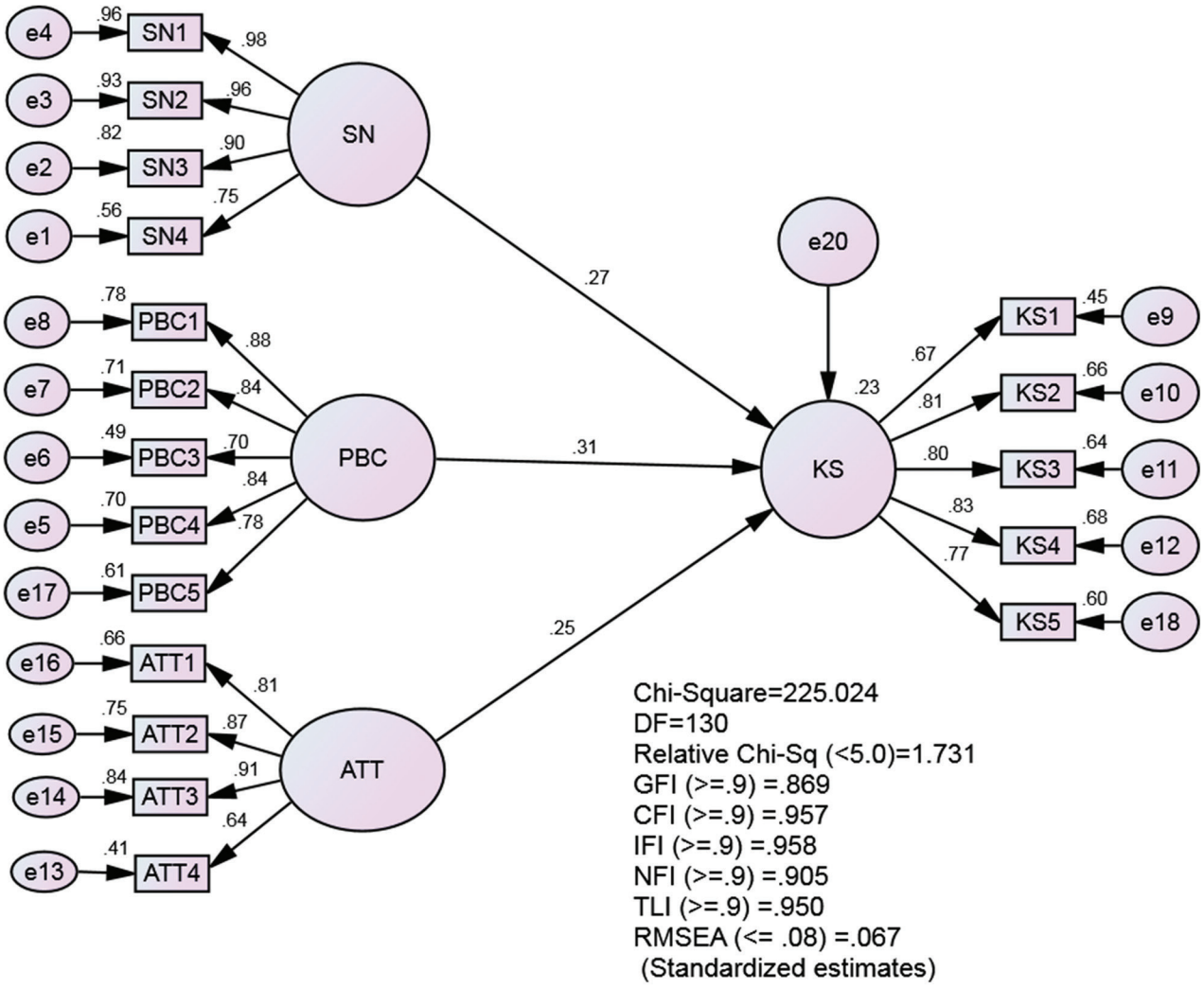

Fig. 1. Structural model

Table IV: Structural model outcomes

Hypotheses				Estimate	S.E.	C.R.	P-value	Label
H1	KS	<---	ATT	0.236	0.086	2.729	0.006	Supported
H2	KS	<---	SN	0.185	0.058	3.198	0.001	Supported
H3	KS	<---	PBC	0.274	0.078	3.483	***	Supported

KS: Knowledge sharing, ATT: Attitude, SN: Subjective norm, PBC: Perceived behavioral control

The third hypothesis examined the impact of PBC on KS, and the results showed $P = 0.000 < 0.05$ and the t-value (CR) 3.483 higher than 1.96. Thus, the H3 supported. This result aligns with previous findings (Abdillah et al., 2018; Fauzi et al., 2018; 2019).

V. Discussion

SN has a significant positive impact on KS among academics. If they did not 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 vital, unless there is another problem that impedes sharing among academics. Further research showed that the SN toward KS among academics is an important variable. This is supported by earlier studies on KS among academics, which demonstrates subjective standards as a vital factor impacting KS (Bock et al., 2005; Iqbal et al., 2011). Social assistance from the organization's executives, agencies, and peers performs a crucial 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 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.

ATT toward KS will be highly inclined to communicate what they understand and the academic experience. ATT is the shape of personal cognitive convictions, a belief in how individuals in certain situations should or should not act (Wu and Zhu, 2012). 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 ATT on KS (Bock et al., 2005; Fauzi et al., 2018; Jolaee et al., 2014; Iqbal et al., 2011). 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 ATTs 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.

The result indicated that the PBC has a major impact on KS and positively and significantly impacts KS among academic staff. The result is supported by previous findings (Abdillah et al., 2018; Fauzi et al., 2018, 2019).

The result refers that academics perceived their ability to share to be significantly controlled; they would take all necessary steps to execute KS. Academics are in charge of their actions with intelligent minds, integrate with good ability and talents academics will share as they feel that communicating would improve their expertise in particular fields. Knowing in advance that becoming an academic would enable them to lecture, which is a straightforward practice of KS, would imply the importance of PBC as a determinant of the purpose to KS.

VI. Conclusion

University researchers must be of the greatest quality. Nevertheless, getting academics who have high performance are not enough to not communicate and share their knowledge with others in higher education society. Higher education must have academics with the feeling of sharing their expertise without withholding any element or component due to self-interest. This research showed that ATT, SN, and PBC significantly impact academics KS. Academic is a career in which everyone should be willing to communicate understanding without any limitations or prejudices. This research has several theoretical consequences. The research includes extensive determinants for academics KS classified into ATT, SN, and PBC. 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 a significant effect on KS among academic staff. This research's theoretical contribution also gives practical consequences to the university regarding the importance of knowing the KS model. Therefore, the university should support academics and establish innovative climates and norms to develop positive ATTs in the organization 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 three private universities are used for this research, the results could not be generalized to other universities. Consequently, if we want to look into the same sector in other counties with various national cultures, this study's results cannot be confirmed because the Iraqi higher education context may differ from other country contexts.

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