PalArch's Journal of Archaeology of Egypt / Egyptology

DEVELOPING AND TESTING AN INCLUSIVE MODEL OF ACADEMICIANS' KNOWLEDGE SHARING USING THE THEORY OF PLANNED BEHAVIOR

Mohammad Nasar Khan[1], Shazia Akhtar[2]

[1]National Bank Of Pakistan

[2]Szabist, Islamabad

Mohammad Nasar Khan , Shazia Akhtar. Developing And Testing An Inclusive Model Of Academicians' Knowledge Sharing Using The Theory Of Planned Behavior--Palarch's Journal Of Archaeology Of Egypt/Egyptology 20(2), 375-399. ISSN 1567-214x

Keywords – Theory Of Planned Behavior, Knowledge Sharing Intention, Higher Education Institutions, Academicians

ABSTRACT

Purpose

The purpose of this paper is to develop and assess an intention-formation model by identifying the critical factors from the literature that are linked to the willingness of academicians to share their knowledge. The theory of planned behavior is utilized to provide the necessary conceptual support to the proposed model.

Design/methodology/approach

A quantitative research design was employed to collect 355 valid responses from the teaching staff of Pakistani universities using adopted scales in a phased manner. The cross-sectional data was subsequently presented to partial least squares-structural equation modeling (PLS-SEM) to validate the measurement model and confirm the proposed relationships.

Findings

Among the original predictors, attitude and behavioral control exhibited a significant and positive effect on knowledge sharing intention, while subjective norm failed to demonstrate the same. Among the added predictors, the variables of enjoyment in helping others, knowledge sharing culture, and self-efficacy yielded significant and positive results.

However, the variables of perceived organizational incentive and reciprocal benefits could not return significant results.

Research, Practical & Social implications

The study recommends that university administrators should take into account both organizational and individual factors to comprehensively comprehend the knowledge sharing behavior of academicians and formulate an appropriate knowledge sharing strategy. Suggested steps include cultivating a knowledge sharing culture to motivate academicians, implementing a knowledge sharing reward system, and providing opportunities for scholars to share and exchange their knowledge for the collective benefit.

Originality/value

This study has presented an inclusive theoretical framework for comprehending the knowledge sharing intention of academicians, which contributes to the ongoing discourse in this field and sets the groundwork for more targeted and insightful investigations.

INTRODUCTION

Sharing knowledge among academicians is increasingly becoming vital in the context of higher education institutions (HEIs). In fact, HEIs are reliant on academicians to improve their administrative and academic services and help them compete in the global educational market (Sohail & Daud, 2009). The general role of academicians i.e. teaching, researching, consulting, and publishing when complemented by better knowledge sharing (KS) practices improves the decision-making processes that lead to the development of quality education system (Jolaee, Nor, Khani, & Yusoff, 2014; Kim & Ju, 2008). It results in mutual learning, intellectual development of students and reduced redundancy (Fullwood & Rowley, 2017). Problems are quickly solved (Hou, Sung, & Chang, 2009); social relationships are improved and teaching quality is enhanced (Santhose & Lawrence, 2023; Tseng & Kuo, 2014). Further, backed by KS culture, HEIs can go on to partner with businesses and other organizations, exchange knowledge, promote innovation; and contribute to knowledge-based economy (Charband & Navimipour, 2018; Farrukh, Sajid, Zreen, & Khalid, 2019).

Despite acknowledging the significance of KS, many academicians are not actively involved in this practice (Alotaibi, Crowder, & Wills, 2014; Farrukh et al., 2019; Muqadas, Rehman, Aslam & Rahman, 2017). According to Al-Kurdi et al., (2020), a decent population of academicians perceives KS as a 'not-so-good' practice. Gravett and Petersen (2007) argued that the competitive nature of academia and the need for ongoing publication in order to be considered employable are factors inhibiting KS among academicians. Kim and Ju (2008) linked it with the lack of systems and policies to protect the intellectual assets of academicians. Individuals may feel feared that KS would shift the associated advantage to the competitors (Charband & Navimipour, 2018). Raza and Awang (2021) and Muqadas et al., (2017) report that academician hoard knowledge due to political motives such as gaining influence, power and authority. On the other hand, Newman and Turner (1996) feared that the organizational structure, which is composed of

individual departments, schools, and faculties, can act as a barrier to KS, as academicians may become entrenched in divisions and lose sight of the primary institutional goals.

Be it any reason, such a climate dents the institution's efforts to increase research collaboration, and boost innovation in society at large (Al-Kurdi et al., 2020). Muqadas et al., (2017) argue that when organizational interests are replaced by personal interests, knowledge is hoarded that hampers the overall self-development of the academicians (Hou, et al., 2009). Individuals during employment gain valuable knowledge and skills which remain underutilized if the opportunities for mutual learning are scarce. As a result, inefficiencies emerge, and the institution's capability to achieve its strategic objectives is affected (Kanwal, Nunes, & Arif, 2019).

That is why, Karim and Majid (2019) stressed that HEIs should seek solutions to overcome these obstacles and facilitate the active participation of academicians in KS activities. Successful knowledge management (KM) necessitates a willingness among individuals to share their knowledge voluntarily (Hislop, Bosua, & Helms, 2018). As KS is a discretionary behavior, employees need to be convinced that they stand to gain from sharing knowledge to fully leverage the benefits of KM. Al-Kurdi et al., (2020) and Santhose and Lawrence (2023) felt the need to understand what factors can influence academicians' KS intentions so the HEI's KM and KS strategies are better handled. In their earlier review, Al-Kurdi et al., (2018) concluded that the determinants of KS practices in HEIs have not been fully understood. Similarly, Al-Hawamdeh and Al-Qatamin (2021), Farrukh, et al., (2019), Kanwal, et al., (2019) and Muqaddas et al., (2017) are among the leading authors who stressed empirical investigations involving KS predictors in HEIs.

In response, the present study endeavors to explore the organizational and individual factors that may influence the KS propensity of academicians. Drawing upon the theory of planned behavior (TPB), the authors recognize that the insights generated by this investigation can aid in comprehending what academic institutions should consider to address the knowledge hoarding challenge and cultivate an organizational culture that motivates academicians to continue sharing their knowledge beyond the classroom.

LITERATURE REVIEW

TPB (Ajzen, 1991) despite of its limitations (Sniehotta, Presseau, & Araújo-Soares, 2014) enjoys the reputation of most reliable framework to understand a range of volitional behaviors including KS (Nguyen, Nham, & Hoang, 2019). For example, Fullwood and Rowley (2017) successfully used it to explain the KS of UK academicians by obtaining 40% impact on KS intention triggered by respective determinants. In another study by Al-Kurdi et al., (2020), involving academicians from nine countries, found that the study constructs have caused 70% and 22% variation in KS intention and KS behavior respectively. In a study by Chennamaneni, Teng & Raja (2012) in the business context involving knowledge workers across industries reported 60% and 41% change in intention to share knowledge and KS behavior respectively.

In addition to its satisfactory predictive power, another reason to use TBP is its flexibility. According to Ajzen (2020), TPB can be modified through the addition of new variables or by changing the paths for existing variables. This means that in addition to its original constructs i.e. subjective norm (SN), attitude, and perceived behavioral control (PBC), a number of domain-specific determinants can also be added (Armitage & Conner, 2001). In fact the value of TPB has been enhanced with the addition of other predictors (Nguyen et al., 2019). Using its flexibility, the current study has expanded the original TPB model by identifying five critical determinants that are proved to be closely associated with individual's KS. The finalized model shows that perceived organizational incentives (POI), perceived reciprocal benefits (PRB), and enjoyment in helping others (EHO) determine the knowledge sharing attitude while knowledge sharing culture (KSC) and knowledge sharing self-efficacy (KSSE) have been identified to determine the knowledge sharing subjective norm and perceived behavioral control over KS respectively.

POI was based on AL-Kurdi et al., (2018) and Witherspoon, Bergner, Cockrell, & Stone, (2013) and added to the model because academicians prefer the availability of incentive schemes and reward for getting involved in KS (Amin, Zawawi, & Timan, 2011; Cheng, Ho, & Lau, 2009; Ramayah, Yeap, & Ignatius, 2014). The addition of PRB was inspired by Fullwood and Rowley (2017), and Jeon, Kim and Koh (2011), while EHO was added on the basis of studies by Chedid, Alvelos, & Teixeira, (2020) and Witherspoon, et al., (2013). Both have been frequently proved as the significant determinants of KS attitude (Nguyen, et al., 2019). The addition of KSC is supported by Alavi, Kayworth, and Leidner, (2005) who found that the presence of a supportive and favorable KS culture leads to the establishment of favorable KS values and norms. In most studies, organizational climate has been employed as the determinant of KSSN (Chennamaneni et al., 2012: Tohidinia & Mosakhani, 2010). Unlike organizational climate, the term KSC is relatively fresher but more specific and refers to the combination of KS enablers such as trust, collaboration, and open communication (Marouf, 2016). The addition of KSSE as a final determinant was based on Radaelli, Lettieri & Masella (2015) and Witherspoon, et al., (2013). In the current study, the role of KSSE has been altered from that of an attitudinal antecedent (Jolaee et al., 2014; Tohidinia & Mosakhani, 2010), to a control one, following the view of Ajzen (1991) & Radaelli, et al., (2015) about the close connection between self-efficacy and PBC constructs.

Understanding KS through the TPB

Bartol and Srivastava (2002) defined KS as the process whereby individual share information, ideas, suggestion, expertise with one another that is relevant to the organization. Research supports the notion that KS is a voluntary behavior (Amin, et al., 2011) which is only encouraged by managers but never imposed. In other terms, KS is closely connected to organizational citizenship behavior (OCB) such that workers are normally free to choose whether to share the knowledge possessed by them or hold it back (Kelloway & Barling, 2000; Kuo & Young 2008). Thus, the readiness or intention of

individuals towards KS plays a crucial role of individual's involvement in actual KS (Bock, Zmud, Kim & Lee, 2005).

TPB appears to be the most valid theoretical framework when the factors affecting the KS readiness of individuals is to explore (Chennamaneni, et al., 2012). The main construct of the theory i.e. KS intention is the driving force that influences individual's behavior in terms of willingness and effort to share knowledge (Ryu, Ho & Han, 2003). According to Al-Kurdi (2020), the intention to share knowledge is a necessary condition for engaging in actual KS behavior. This means that if academicians have a stronger intention towards KS, they are more likely to exhibit KS behaviors.

KS Intention (KSI) is influenced by three antecedents: KS attitude (KSA), KS subjective norm (KSSN), and perceived behavioral control over KS (PBCKS). KSA refers to an individual's positive or negative feelings about sharing their knowledge (Bock et al., 2005). KSSN refers to the extent to which an individual believes that those who influence their actions expect them to engage in KS (Bock et al., 2005). PBCKS refers to the perceived ease of sharing knowledge with others (Lin & Lee, 2004; Ryu et al., 2003). According to Abbas (2017), KSA, KSSN, and PBCKS are critical factors for enhancing KS intention, particularly in learning environments. Employees, who hold positive KSA; feel the existence of KS friendly norm and PBCKS, have normally strong KSI and subsequently initiate KS when the opportunity emerges (Shah & Mahmood, 2013).

KSA and KSI

As per TPB, attitude is one of the crucial determinants of intention as if favorable it likely causes KS engagement (Chatzoglou & Vraimaki, 2009). According to Bock et al. (2005) and Ryu et al. (2003), there is a positive relationship between KSA and KSI, meaning that a more positive KSA is likely to lead to a greater intention to do so. Comprehending the significance of attitude is crucial, as no KM or KS project can sustain within an organization without the recognition and approval of knowledge workers (Charband & Navimipour, 2018). Al-Kurdi et al., (2018) found that academicians with positive KSA are those who have overcome the fear of losing knowledge advantage. Such individuals are better prepared to welcome KS opportunities in their organization. Witherspoon, et al., (2013) are also of the view that positive KSA leads to the KS willingness of knowledge workers.

H1a: KS attitude positively influences KS intention

KSSN and KSI

Similar to attitude, TPB regards subjective norm (SN) as an important factor in shaping an individual's intention to engage in a specific behavior. Charband and Navimipour, (2018) believe that organizational values and norm affect individuals' decisions about KS. Similarly, Ramayah et al. (2014) conclude that favorable organizational values affect employees' willingness to share knowledge. As suggested by Tan (2016), deans and department heads set the

tone by exhibiting behaviors of KS themselves to inspire others to publicly share their knowledge that becomes a basis for research collaboration. If KS is valued and acknowledged by influential referent groups such as management, seniors, and colleagues, individuals are likely to perceive it as an organizational norm and strive to conform to it. (Wang and Noe, 2010). Several studies back the notion that KSSN positively influences KSI in different setting (Bock et al., 2005; Chennamaneni et al., 2012).

H1b: KS subjective norm positively influences KS intention

PBCKS & KSI

The third determinant of intention, PBC, refers to an individual's perception of the ease or difficulty of performing a specific behavior (Ajzen, 1991). Putting it into KS, individuals could give helpful knowledge to other people, when they have sufficient control over KS (Hsu, Ju, Yen, & Chang, 2007). KS is a challenging task that needs certain conceptual and communication skills to exhibit and hence academicians possessing the required control only will show readiness (Alavi & Tiwana, 2002). According to Al-Kurdi et al. (2020), a higher degree of control that academicians possess over KS is positively associated with their likelihood of participating in KS. This conclusion is consistent with prior research on KS, which has been supported by Chennamaneni et al. (2012) and Tohidinia & Mosakhani (2010).

H1c: Perceived Behavioral Control over KS positively influences KS intention

Antecedents of KSA

Perceived Organizational Incentive (POI):

POI refers to the individuals' belief that they would receive organizational incentive in the form of salary rise, promotion, bonus, and job security as a reward for engaging in KS (Chennamaneni et al., 2012; Kankanhalli, Tan & Wei, 2005). According to TPB, an individual's attitude towards a behavior is shaped by their underlying "behavioral belief" regarding the expected outcome of the behavior, as well as their evaluation of the outcome in relation to other outcomes (Ajzen, 1991). When academicians perceive that exhibiting KS will lead them to favorable outcome such as incentives, they develop a positive KSA (Chatzoglou & Vraimaki, 2009) and resultantly greater KSI (Tan, 2016).

In KS as a social exchange, academicians compare the cost (time, energy needed to generate knowledge) against benefit (incentives) offered by the HEI (Tan, 2016). Perceived benefits should match KS costs to inspire academicians to put their weight behind KS efforts (Kankanhalli et al. 2005). That is why Cheng et al. (2009) recommended that academicians should be remunerated for adding their research output to the institute's intranet.

Empirical evidence does back this idea. E.g., Ramayah et al., (2014) reported that incentive is an important element of academicians' KSA that increases the

likelihood of their KS involvement. Tan (2016) endorsed the use of incentives to attract and retain skilled academicians to realize the HEI's mission. Zawawi et al. (2011) conducted a study on Malaysian universities and found that the lack of organizational incentives was the most important obstacle to KS. Thus as recommended by Radaelli, et al., (2015) who viewed POI as an important determinant of KSA, we propose:

H1a: Perceived organizational incentive positively influences KS attitude.

Perceived reciprocal benefit (PRB)

The PRB concept pertains to an individual's belief that engaging in KS with their co-workers will increase the likelihood of their own future knowledge requests being fulfilled. (Chennamaneni et al., 2012; Kankanhalli et al., 2005; Wasko & Faraj 2000). As TPB assumes that attitude is governed by the belief of individual concerning the behavioral outcome; improved reciprocal relationships with co-workers does serve as an outcome of KS engagement (Lin, 2007). In other words, if academicians perceive that they can gain knowledge from others by contributing their own knowledge, they are more likely to view KS positively and display a willingness to engage in exchange (Tan, 2016).

Lin (2007) described that reciprocal behavior ensures an on-going KS activity by establishing a sense of shared gratitude that inspires academicians to give and take. According to Abbas (2017), people usually consider the costs and benefits before opting for KS with colleagues and do so if they expect a future return. Bock et al. (2005) and Kankanhalli et al., (2005) pointed out that the return may not always be tangible, and at times non-tangible outcomes such as personal obligation, trust and expected associations do the job.

Several researchers have proved the significance of PRB to attain long-term collaboration in universities (Lin, 2007). Tohidinia and Mosakhani (2010) found its impact on KSA in face-to-face interaction while Wasko and Faraj (2000) in the online environment. Similarly, Ramayah et al. (2014) observed that academicians welcome KS efforts when they believe it can improve relationships. Fullwood and Rowley (2017) who looked at the KS of UK academicians found that PRB has the strongest positive effect on KSA. This discussion led us to propose:

H1b: Perceived reciprocal benefits positively influence KS attitude

Enjoyment in helping others (EHO)

When individuals derive pleasure from helping others through KS, it is referred to as EHO (Kankanhalli et al., 2005; Wasko & Faraj 2000). According to TPB, when employees perceive that exhibiting KS will lead them retrieve pleasure out of their act, they are likely to develop a positive KSA (Chatzoglou & Vraimaki, 2009).

Ryan and Deci (2000) suggest that individuals are motivated intrinsically to engage in certain actions, such as KS, because the impetus for the behavior is internal, and the individual derives a sense of personal satisfaction from the activity. Frey and Osterloh (2001) have contended that KS is the result of one's very own intrinsic motivation which is only encouraged and not reliant on external pressure or reward (Cavaliere, Lombardi, & Giustiniano, 2015). Wasko and Faraj (2000) have revealed that people donate knowledge even in electronic systems because they enjoy helping others. Similar findings were reported by Kankanhalli et al. (2005) who found EHO as an important KS motivator by claiming that when employees feel good to help others, they are likely to share knowledge.

Cavaliere et al. (2015) discovered in their research that knowledge workers who derive satisfaction from assisting their colleagues tend to be more inclined towards both sharing and acquiring knowledge. According to Rahab and Wahyuni (2013), employees are motivated by a sense of moral obligation to share their knowledge, in order to make a positive contribution to their team. Razmerita, Kirchner, and Nielsen (2015) while evaluating the effectiveness of social media within organization for KS, concluded that EOH is one of the important KS determinants. This discussion prompts us to propose:

H1c: Enjoyment in helping others positively influences KS attitude

Antecedent of KSSN

Knowledge sharing culture (KSC)

KSC refers to a knowledge friendly atmosphere characterized by trust, collaboration and open communication (O'Dell & Grayson, 1998; Marouf, 2016; Sveiby & Simon 2002). TPB proposes that SN is governed by 'normative belief' which means that organizational context influences the employees' judgment about what practices are considered acceptable (Lekhawipat, Wei, & Lin, 2018). In case of KS, it guides employees to value knowledge (Cherman & Rocha-Pinto, 2016), and share it (Koh, Chai, & Tay, 2014) by providing the forum to respond to queries and cooperate (Jen-Te, 2007).

Important aspects of KSC are trust, collaboration and open communication. Academicians are more likely to share their personal knowledge and experiences when there is a high level of trustworthiness present (Tan, 2016) and lower when there is mistrust (Al-Kurdi et al., 2018). Similarly, in HEIs, KS is vastly reliant on fruitful research collaboration for the production and dissemination of knowledge (Laycock, 2005). Collaboration brings academicians together to solve issues or discuss tasks and exchange ideas (Powell 1998). As indicated by Jasimuddin and Zhang (2014) fruitful interaction that happens among employees can ease knowledge replication inside the organization.

Tan (2016) advised that HEIs should cultivate a cooperative working environment among academic staff; where they are willing to accept the values and goals of the organization (Abbas, 2017). Alavi et al. (2005) suggested that organizational values should complement KS culture as encouraging and supportive value orientations trigger greater KS. When employees observe that KS is supported, encouraged, and practiced by influential reference groups such as organizational leaders, management, and peers, they are more inclined to engage in KS efforts. (Chennamaneni, et al., 2012).

H2a: KS culture characterized by trust, collaboration and open communication positively influences KS subjective norm.

Antecedent of PBCKS

KS self-efficacy (KSSE)

KSSE stands for the assurance in an individual's capacity to offer valuable knowledge to the organization (Kankanhalli, et al., 2005). As per TPB, PBC is determined by 'control belief' which refers to the perceived availability of internal and external enablers towards a specific behavior (Ajzen, 1991). According to Al-Kurdi (2020), academicians participate in KS activities to the extent that they perceive their abilities, time, and resources permit.

Radaelli, et al., (2015) argued that employees have to overcome a number of barriers to successfully execute KS. Hsu and Chiu (2004) reported that mere positive feeling about KS is not enough and academicians must also have the perceived abilities to pursue it. Tan (2016) stated that the faculty's willingness to KS is weakened if they think that they have nothing worthy to contribute. Several studies as conducted by Kankanhalli et al., (2005) and Tohidinia and Mosakhani (2010) support the role of self-efficacy as a prerequisite for KS in different contexts. Liou, Chih, Yuan, & Lin, (2016), studied this phenomenon through an internet community and found that users with higher KSSE were more inclined to KS.

Originally, Bandura (1977) defined self-efficacy as the individuals' belief to initiate and complete a task. It determines how people think, behave, and feel. On the other hand, PBC involves knowledge, aptitude, means and opportunities required to exhibit a particular behavior (Ajzen, 1991). Both the constructs are governed by the 'control belief' and thus share conceptual similarity (Ajzen, 1991). This similarity makes KSSE a natural determinant of PBCKS and provides us with sufficient ground to assume that:

H3a: KS Self-efficacy positively influences Perceived Behavioral Control over KS

METHODOLOGY

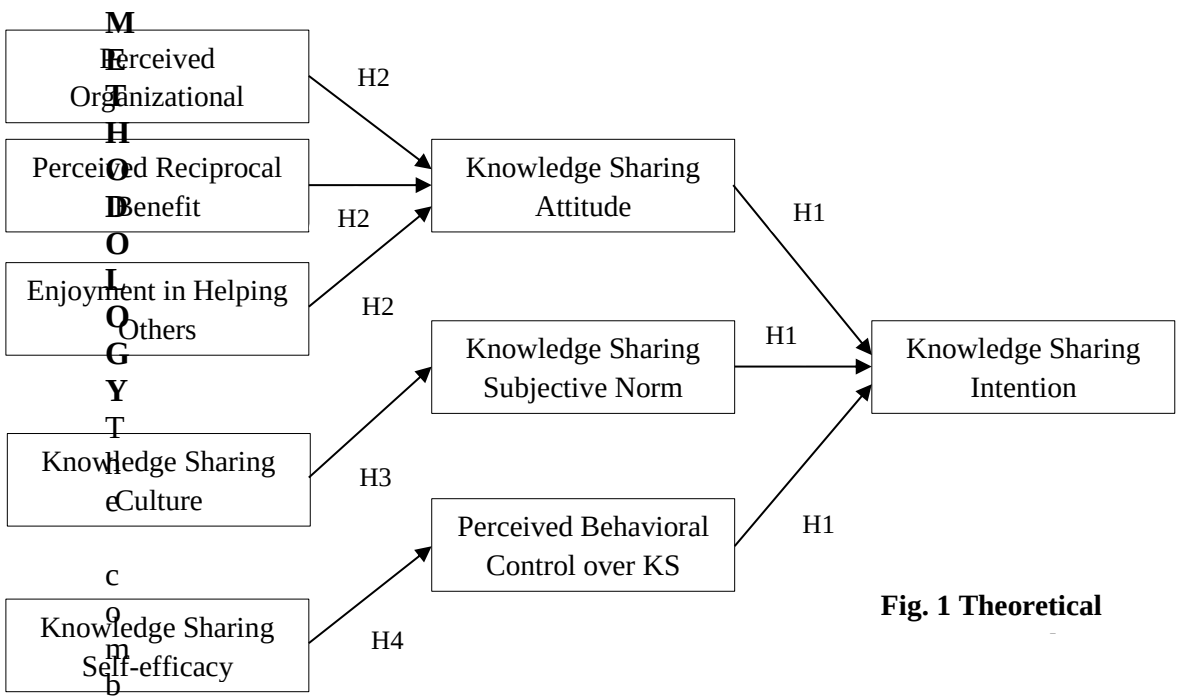

Fig. 1 Theoretical

The theoretical combination of widely used quantitative and cross-sectional techniques was used to for data collection. Reliable scales were adopted from earlier studies (Chennamaneni et al., 2012; Kankhanhalli et al., 2005; Marouf, 2016) which were further validated with a pilot test and expert review. Convenient sampling was employed because of the difficulty to define a population frame of academicians having 3-year experience from available sources.

Participants

The participants were the experienced teaching staff of Pakistani HEIs located in the federal capital i.e. Islamabad, and provinces i.e. Punjab and Khyber Pakhtunkhwa. As per the findings of Babalhavaeji and Kermani (2011) minimum experience of three years was set to allow participants with sufficient work-related knowledge to share. Table 1 reveals that associate professors, assistant professors, lecturers, teachers, instructors, and teaching assistants have participated in the study. The length of service row shows that 259 respondents have more than 7.5 years of professional experience which is really encouraging in reference to the objective of this study.

Table 1: Demographics

Profile	**Frequency**	**Percentage**
Gender		
Male	244	68
Female	50	14
Did not Mention	61	17
Education		

Masters	61	17
M. Phil	158	45
Doctorate	93	26
Did not mention	43	12
Age Group (Years)		
25-30	65	18
31-40	189	53
41-50	88	25
Above 50	6	2
Did not mention	7	2
LOS (Years)		
3-7	74	21
7.5-10	120	34
10.5-15	110	31
15.5-20	12	3
Above 20	17	5
Did not mention	22	6
Organization type		
Public	236	67
Private	78	22
Did not mention	41	11

M. Phil=Master of Philosophy, LOS=Length of Service

Instrument

The questionnaire was structured following the recommendations of Sekaran (2003) by incorporating a written request, well-sequenced set of questions, precise use of wording and careful formatting. 7-point Likert scale was employed where '1' and '7' meant 'strongly disagree' and 'strongly agree' respectively alongside several reverse-coded questions (KSA=2 items, PBCKS=1 item, KSSE=2 items). Some variables i.e. gender, age, functional title, service length, highest qualification and organization type were used to collect demographical information about the participants. Table 2 contains necessary detail of the instrument.

Table 2: Sources & reliability of instrument

Sr. No.	Variable	Source	Items	Reliability
1	KSI	Chennamaneni et al. (2012)	7	0.91

2	KSA	Chennamaneni et al. (2012)	5	0.90
3	KSSN	Chennamaneni et al. (2012)	5	0.93
4	PBCKS	Chennamaneni et al. (2012)	6	0.91
5	POI	Chennamaneni et al. (2012)	5	0.94
6	PRB	Chennamaneni et al. (2012)	3	0.84
7	EHO	Chennamaneni et al. (2012)	4	0.95
8	KSC	Marouf (2016)	6	0.88
9	KSSE	Kankanhalli et al. (2005)	4	0.96

DATA COLLECTION

The questionnaire was split into Part 1 and Part 2 with the later distributed after a gap of three weeks. A target of minimum 315 (45*7) valid responses was set as per the recommendation of Hair, Anderson, Tatham and Black (1995) for which the researchers ensured distributing 1000 copies jointly in hard and soft forms. Upon examination of 600 returned copies, 245 responses were discarded either due to missing answers or missing portion. Resultantly, 355 responses were found valid and presented to analysis marking the refined response rate as 35%.

DATA ANALYSIS

Measurement Model Validation

Factor loadings were analyzed to look for items with loading lesser than 0.60 (Nunnally & Berstein, 1994) that resulted in the dropping of nine items (AT1, AT4, SN5, KSSE4, PBC4, PBC6, KSI2, KSI3, KSI5). Construct validity and reliability were measured with the help of Cronbach's alpha, rho_A, composite reliability and average variance extracted (AVE). Variance Inflation Factor (VIF) was comfortably below '4.0' for all variables that ruled out the possibility of multicollinearity. These statistics are given in Table 3.

Table 3. Factor Loading, Construct Reliability & Validity, AVE, VIF

Construct		**Loading**	**Cronbach's Alpha**	**rho_A**	**Composite Reliability**	**AVE**	**VIF**
KSA	AT2	0.713	0.701	0.704	0.701	0.539	1.65
	AT3	0.620					1.71
	AT5	0.652					1.18
EHO	ENJ1	0.818	0.883	0.884	0.883	0.655	2.3
	ENJ2	0.837					2.91

	ENJ3	0.759					2.22
	ENJ4	0.820					2.33
KSC	KSC1	0.771	0.883	0.885	0.882	0.557	1.57
	KSC2	0.767					2.21
	KSC3	0.797					2.68
	KSC4	0.710					2.45
	KSC5	0.655					1.96
	KSC6	0.768					2.16
KSI	KSI1	0.659	0.768	0.768	0.768	0.653	1.34
	KSI4	0.683					1.67
	KSI6	0.689					1.49
	KSI7	0.660					1.62
KSSE	KSSE1	0.805	0.757	0.759	0.758	0.61	1.59
	KSSE2	0.756					1.59
	KSSE3	0.677					1.44
PBCKS	PBC1	0.630	0.747	0.749	0.746	0.524	1.57
	PBC2	0.659					1.56
	PBC3	0.716					1.48
	PBC5	0.624					1.54
POI	POI1	0.758	0.845	0.842	0.838	0.51	1.22
	POI2	0.764					2.42
	POI3	0.633					3.88
	POI4	0.658					3.86
	POI5	0.747					1.91
PRB	PRB1	0.739	0.724	0.725	0.724	0.568	1.47
	PRB2	0.768					1.47
	PRB3	0.774					1.51
KSSN	SN1	0.670	0.783	0.785	0.784	0.576	2.22
	SN2	0.728					2.52
	SN3	0.668					1.56
	SN4	0.692					1.23

Factor Loading > 0.60, Reliability, rho_A & CR > 0.70, AVE > 0.50, VIF<4
Fornell-Larcker (Fornell & Larcker, 1981) test was conducted to confirm the discriminant validity. This test compares the square roots of the AVE of each latent variable with the corresponding value of every other variable which must be greater to establish the discriminant validity of the scale (Table 4). Additionally, heterotrait-monotrait (HT-MT) test was run which is easier to report courtesy having a correlation value of 0.75 (maximum) to declare the discriminant validity of the scales. Table 5 confirms that the scales pass this test comfortably.

Table 4. Discriminant Validity (Fornell-Larcker Test)

	KSA	PBCKS	KSC	EHO	POI	KSI	KSSN	PRB	KSSE

KSA	**0.66***								
PBCKS	0.26	**0.65***							
KSC	0.17	0.52	**0.75***						
EHO	0.42	0.53	0.33	**0.81***					
POI	0.07	0.31	0.51	0.21	**0.71***				
KSI	0.54	0.52	0.30	0.53	0.21	**0.67***			
KSSN	0.51	0.44	0.38	0.37	0.35	0.43	**0.69***		
PRB	0.17	0.31	0.32	0.31	0.56	0.26	0.38	**0.75***	
KSSE	0.29	0.47	0.37	0.64	0.32	0.61	0.31	0.34	**0.78***

The diagonals are the square roots of the AVE of latent variables and show the highest in the respective column/row

Table 5. Discriminant Validity (HT-MT Test)

	KSA	PBCKS	KSC	EHO	POI	KSI	KSSN	PRB	KSSE
KSA									
PBCKS	0.27								
KSC	0.17	0.52							
EHO	0.40	0.53	0.32						
POI	0.11	0.31	0.50	0.21					
KSI	0.54	0.51	0.3	0.73	0.21				
KSSN	0.51	0.44	0.37	0.36	0.34	0.43			
PRB	0.17	0.32	0.32	0.31	0.55	0.26	0.38		
KSSE	0.29	0.46	0.37	0.64	0.31	0.61	0.3	0.34	

HT-MT < 0.75

Table 6. Descriptive statistics (N=355)

Variables	**Mean**	**SD**	**Skewness**		**Kurtosis**	
KSA	5.6975	.92880	-.799	.129	1.107	.258
KSSN	5.6299	.87547	-.176	.129	2.729	.258
PBCKS	5.2441	.85940	-.396	.129	.355	.258
KSI	5.3759	.88704	-.744	.129	1.423	.258
POI	4.3876	1.38207	-.107	.129	-.607	.258
PRB	5.2911	1.09660	-.094	.129	1.968	.258
EHO	6.0394	.84301	-.151	.129	1.791	.258
KSC	5.1052	1.23128	-.845	.129	.300	.258
KSSE	4.4070	.66714	.777	.129	.583	.258

Kurtosis: -3<k<+3, Skewness: -1<S<+1

The mean values for all predictors are on the higher side as the instrument used for the study was 7-point Likert scale. Additionally, for the issues of normality in the data, the statistics for kurtosis and skewness were judged.

Table 6 shows that both these statistics fall in the acceptable range of -3 to +3 (kurtosis) and -1 to +1 (skewness).

Table 7. Correlations

	KSA	KSSN	PBCKS	KSI	POI	PRB	EHO	KSC	KSSE
KSA									
KSSN	0.292**								
PBCKS	0.207**	0.268**							
KSI	0.263**	0.344**	0.292**						
POI	-0.082	0.304**	0.157**	0.290**					
PRB	0.069	0.301**	0.177**	0.267**	0.440**				
EHO	0.349**	0.319**	0.426**	0.513**	0.147**	0.306**			
KSC	-0.009	0.331**	0.349**	0.345**	0.427**	0.249**	0.283**		
KSSE	0.167**	-0.035	0.194**	0.098	-0.045	0.015	0.227**	-0.026	

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

Correlation (Table 7) among the variables ranges from weak to moderate at ($p < 0.01$) except for KSA and POI, KSA and PRB, and KSI and KSSE. The R-square analysis (Table 8) shows that POI, PRB, and EHO are explaining 16% change in KSA (R=0.16, Adjusted R=0.15), KSC has explained 22% change in KSSN (R=0.22, Adjusted R=0.21) while KSSE has explained 22% change in the PBCKS (R=0.22, Adjusted R=0.21). KSA, KSSN and PRB are jointly explaining 45% change in KSI (R=0.45, Adjusted R=0.44). Model fitness is measured through SRMR=0.07 in this case (should be less than .085) and NFI=0.72 in this case (ideally should be 0.90 or greater).

Table 8.: Effect and R Size

	KSA	KSSN	PBCKS	R-Sq.	Ad. R-Sq.
POI	0				
PRB	0				
EHO	0.16				
KSC		0.16			
KSSE			0.28		

KSA				0.16	0.15
PBCKS				0.22	0.21
KSSN				0.22	0.21
KSI				0.45	0.44

SRMR =0.07, NFI=0.72, Weak Effect=0~0.15, Moderate Effect=0.15~0.30, Strong Effect>0.30

RESULTS OF HYPOTHESIS TESTING

The combined effect of all latent variables is causing 45% of variance in KSI reflecting a decent predictive power of the model. The output also shows 16%, 37% and 46% variances in KSA, KSSN and PBCKS respectively caused by their respective determinants. Observing the t-statistics and p-values (Table 9), reveal that hypothesis H2 (c), H3 (a), H4 (a), H1 (a), and H1 (c) have been supported with $p < 0.01$. However, hypothesis H2 (a), H2 (b) and H1 (b) are not supported.

Table 9. Path Coefficients for hypothesis testing

Hypothesis	Direction	Path Coefficient	T Statistics	P Values	Result
POI → KSA	+	-0.045	0.523	0.601	Not Supported
PRB → KSA	+	0.073	0.551	0.582	Not Supported
EHO → KSA	+	0.383*	3.696	0.000	Supported
KSC → KSSN	+	0.376*	5.260	0.000	Supported
KSSE → PBCKS	+	0.469*	7.090	0.000	Supported
KSA → KSI	+	0.417*	4.279	0.000	Supported
KSSN → KSI	+	0.046	0.477	0.634	Not Supported
PBCKS → KSI	+	0.39*	4.609	0.000	Supported

*P<0.01

DISCUSSION & INTERPRETATION

KSA has been proved to be the most important antecedent of KSI (41%), closely followed by PBCKS (39%) which endorses the findings of Ramayah, et al (2014) and Nguyen, et al., (2019). Knowledge exists in human brain and is impossible to be shared without a favorable mindset of the knower. Recognizing the importance of KSA, Al-Kurdi et al., (2018) advised that in order to cultivate a positive KSA, officials at HEIs should allay academicians' concerns about losing their edge and reassure them of their significance and place within the institution. KSA is rightly supported by PBCKS to generate the drive for academicians KS engagement. This strengthens the narrative that in addition to have positive KSA, the academicians must believe in their KS abilities for the actual exchange of knowledge to happen. Sufficient training, participation in decision making and removing KS barriers are some of the ways to let academicians feel better KS control.

An interesting revelation of the current study is that KSSN does not have any effect on KSI. Although KSC did lead to the development of KSSN, the same did not replicate to influence KSI significantly. This means that KS values and norms are unable to prompt the KS willingness of academicians. Apparently, this is in contradiction to the TPB where norm is one of the three pillars of intentions. However, according to Ajzen (1991), the relative significance of the three predictors could vary across situations especially in cross-sectional researches. In some circumstances all three make significant contribution (Chennamaneni et al., 2012; Tohidinia & Mosakhani, 2010) while sometimes

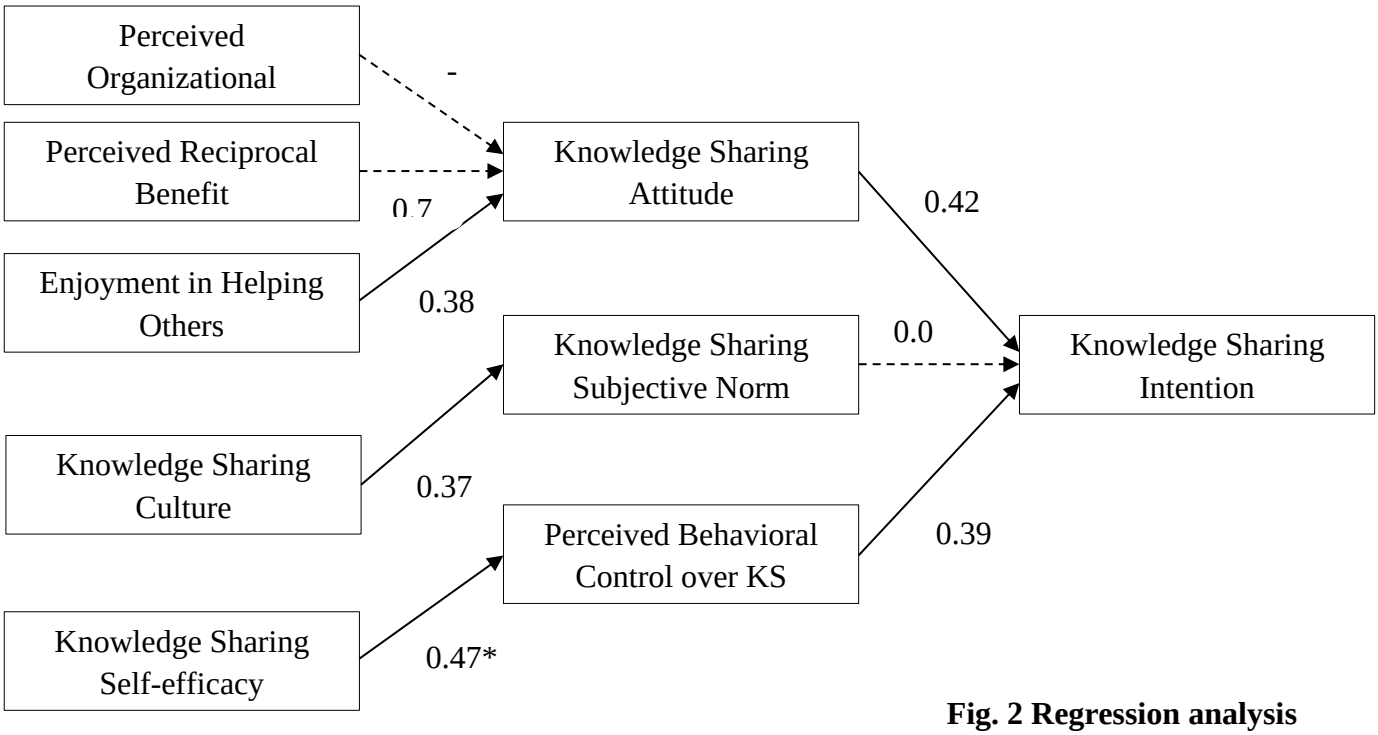

Fig. 2 Regression analysis

*p < 0.01

No significance ---------▶

a combination of either two does the job (Shah & Mahmood, 2013; Tan, 2016). Further, notably academicians enjoy greater job autonomy (Fullwood & Rowley, 2017) which allows them be driven more by their own values and beliefs rather than surrender to the organizational norms (Jolaee et al. 2014).

POI has not been found to affect KSA. Although this is in contradiction with Ramayah et al., (2014) and Zawawi et al. (2011), the current result is not surprising (Bock et al., 2005; Chinammenni et al., 2012). The research carried out in Malaysian universities was unable to demonstrate a notable impact of incentives on KS (Jolaee et al., 2014). These findings suggest that academicians do not value organizational incentive as an outcome of their KS or they may fear that management would dictate them with the help of such tricks (Javaid et al., 2020). Further, Jolaee et al., (2014) reasoned that such inconsistency is due to the majority of Muslim respondents. Islamic work ethic encourages helping and cooperative behaviors; Muslims may not prefer

tangible outcome. Thus, HEI management should be cautious in deciding the reward strategy in KS context. Team-based incentive policy will help to ensure that academicians collaborate and work in teams rather individually.

PRB also shows an insignificant influence on KSI; directly contradicting prior research in face-to-face settings, where it is frequently found critical for sustaining healthy relationships (Chinammenni et al., 2012; Tohidinia & Mosakhani, 2010). The result however endorses the findings of Tan (2016) that showed that reciprocity is not a significant determinant of KSA. This posits that majority of respondents of the current study doubt the return of knowledge. It might be due to their teaching role where the teachers-student relationship offers little room for obtaining knowledge back from the students. Thus the norm of reciprocity becomes a residual outcome for academicians. For the sake of KS, Tan (2016) suggested that the HEI management should communicate with academicians; highlight the advantages of member-to-member KS; and facilitate cross-functional knowledge exchanges.

Among the three determinants of KSA, EHO has only shown significant influence (38%) like earlier studies (Chennamaneni et al., 2012; Kankanhalli et al. 2005), where it was reported to be causing the biggest attitudinal change. This endorses the vital role played by intrinsic motivation to cause KS. Kankanhalli et al., (2005) argued that knowledge is more of a personal possession and individuals are likely to share expertise more eagerly when it possibly leads to their personal branding and self-worth. Since KS requires additional effort and time, academic staff members will require self-motivation to voluntarily share their knowledge with colleagues. The HEI management must give the credit to academicians for KS and let them feel the pride when their knowledge is utilized (Tan, 2016).

KSC has significantly contributed towards establishing KSSN and endorses the view that institutional culture does inspire academicians to get involved in KS practices. Tan (2016) reported a similar finding, stating that the organizational culture of an institute has an influence on the willingness of academicians to share their valuable knowledge. Therefore, it is recommended that HEI management concentrate on generating opportunities for academicians to interact with each other, whether formally or informally, through regular monthly meetings to encourage dialogues among them. This practice promotes KS and cultivates a pleasant work environment that fosters mutual trust (Sveiby & Simon 2002). Fullwood and Rowley (2017) suggested the promotion of KSC could encourage interdepartmental research collaborations. Further, modern platforms such as Twitter, Facebook, WhatsApp, Instagram etc. should be tried to promote KSC at workplace.

KSSE continues to be an important element in individual KS effort as it has been found a strong predictor of PBCKS in the current study. This result suggests that academicians with more self-confidence of contributing valuable knowledge to others will show greater inclination towards KS and vice versa. Tan (2016) suggested that academicians should be informed about the significance of sharing their knowledge and the effect it has on their institute's performance. Consistent practice, positive communication, role modeling, and

constructive feedback are some methods that can enhance the self-efficacy of academics.

RESEARCH CONTRIBUTION

This development and testing of KS framework involving both dispositional and environmental antecedents adds to the growing debate regarding KS in Asian context (Nguyen, et al., 2019) especially in the context of HEIs. Unlike previous studies which had used organizational climate as an antecedent of KSSN (Bock et al., 2005; Chennamaneni, et al., 2012), a newer concept i.e. KSC has been successfully introduced as reflected by a decent amount of variation it has caused in KSSN. The encouraging role played by KSC as a KS enabler has provided a big room for further research to explore the fresh concept in a variety of contexts through more rigorous methodology. Similarly, previous studies used self-efficacy as an antecedent of KSA (Alotaibi, et al., 2014; Jolaee, et al., 2014; Tohidinia & Mosakhani; 2010); the current study has used it alternatively as an antecedent of PBCKS to good effect by obtaining 47% of variation. The study also supports the school of thought that warns against the blind use of monetary motivators for KS.

Managerial Implications

Academicians' attitude should be improved by involving them in key decision making (Lunardi, Zonatto, & Nascimento, 2019). As the role of incentives cannot be established in the current study, HEI administration should be careful in linking incentives to KS efforts. Alternatively, a compensation structure that is more intangible (course reduction, study leave and research opportunities) should be considered. To get most of their intrinsic motivation, administration needs to publicly recognize the KS efforts of academicians.

HEI administration should understand that a healthy environment available for academicians turns them to active knowledge builder who share their knowledge for the benefit of their own teaching & research performance but also for the effectiveness of the institution (Granger, et al., 2002). HEI administration is advised to remove KS barriers and create interaction opportunities in the form of seminars, workshops, trainings, and other social events. It should pay more attention to provide useful feedback to improve employee KSSE alongside trainings, capacity building interventions and the opportunities to represent the institution.

Study Limitations & Future Research Direction

The present study highlights several areas that require further investigation in future research. First, the study looked into KSI rather than actual KSB. The intention-behavior connection is affected by a number of factors in real life (Kuo & Young, 2008) and only a half of the intention is translated into actual performance (Sheeran & Webb, 2016). Therefore, future research should not stop at intention, rather take KSB as the main construct (Nguyen, et al., 2019). Second, scales were adopted from the studies conducted in the business context (Chennamaneni et al., 2012; Kankanhalli et al., 2005; Marouf, 2016). HEIs differ from profit-oriented organizations in terms of structure,

operations, management and organizational culture (Fullwood et al., 2013). Therefore, future studies should either use scales which are specifically designed for academic context or customize the non-academic scales through adaptation.

Third, the current study has focused solely on teaching staff. Non-teaching staff constitutes a significant population in the HEIs and contribute equally towards HEIs' goal achievement (Kanwal, et al., 2019). For scholars who are interested in exploring other aspects of KS within the context of higher education, investigating the factors that influence KS among non-academic staff represents a promising avenue of research.

CONCLUSION

This study aimed to extract key factors believed to be influencing the readiness of academicians to contribute their knowledge from the existing literature and tie them to the TBP to give birth to an intention formation model. The main assumption of TPB is that intention is the main determinant of actual behavior which itself is influenced by attitude, SN and PBC. The current study assumed POI, PRB, & EHO to be positively impacting KSA; KSC to be positively impacting KSSN and KSSE to be positively impacting PBCKS. KSA, KSSN and PBCKS were assumed to be jointly influencing the KSI of academicians in a positive manner. It was found that EHO, KSC and KSSE strongly and positively influence the intention of academicians to share their knowledge while POI and PRB did not. The study adds to the growing debate of KS and KM in the HE sector by contributing an integrated theoretical model which potentially opens up new venues of research in this unique setting. The study also provides the HEI administration sufficient guidance to combat knowledge hoarding, by promoting knowledge friendly culture, working out KS strategy and enhancing staff's KS capabilities.

REFERENCES

Abbas, K. (2017). Knowledge-sharing behavior intentions of academics and their determinants (Doctoral dissertation). Retrieved from http://researchonline.ljmu.ac.uk/id/eprint/8242/

Ajzen I. (2020). The Theory of Planned Behavior: Frequently asked questions. Human Behavior & Emerging Technologies, 2, 314–324.

Ajzen, I. (1991). The Theory of Planned Behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Alavi, M., & Tiwana, A. (2002). Knowledge integration in virtual teams: The potential role of knowledge management system. Journal of the American Society for Information Science and Technology, 53 (12), 1029–1037.

Alavi, M., Kayworth, T.R. & Leidner, L.E. (2005). An empirical examination of the influence of organizational culture on knowledge management practices. Journal of Management Information Systems, 22(3), 191-224.

Al-Hawamdeh, N., & Al-Qatamin, A. (2021). The effect of cultural dimensions on knowledge-sharing intentions: Evidence from higher education institutions in Jordan. The Journal of Asian Finance, Economics and Business, 8(5), 1079–1089.

Al-Kurdi, O. F., El-Haddadeh, R., & Eldabi, T. (2020). The role of organizational climate in managing knowledge sharing among academics in higher education. International Journal of Information Management, 50, 217–227.

Al-Kurdi, O., El-Haddadeh, R., & Eldabi, T. (2018). Knowledge sharing in higher education institutions: a systematic review. Journal of Enterprise Information Management, 31(2), 226-246.

Alotaibi, H., Crowder, R., & Wills, G. (2014). Investigating factors for E-knowledge sharing amongst academic staff. Sixth International Conference on Information, Process, and knowledge management eKNOW 2014, Spain. 4.

Amin, S. H. M., Zawawi, A. A., & Timan, H. (2011). To share or not to share knowledge: Observing the factors. In 2011 IEEE Colloquium on Humanities, Science and Engineering (860-864). IEEE.

Armitage, C.J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. British Journal of Social Psychology, 40, 471–499.

Babalhavaeji, F. & Kermani, Z.J. (2011). Knowledge sharing behavior influences: a case of library and information science faculties in Iran. Malaysian Journal of Library & Information Science, 16(1), 1-14

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-212.

Bartol, K.M., & Srivastava, A. (2002). Encouraging knowledge sharing: the role of organizational reward systems. Journal of Leadership and Organization Studies, 9(1), 64–76.

Bock, G.W., Zmud R.W., Kim Y.G., & Lee, J.N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. MIS Quarterly 29 (1), 87–111.

Cavaliere, V., Lombardi, S. & Giustiniano, L. (2015). Knowledge sharing in knowledge-intensive manufacturing firms: an empirical study of its enablers. Journal of Knowledge Management, 19(6), 1124-1145.

Charband, Y., & Navimipour, N.J. (2018). Knowledge sharing mechanisms in the education: A systematic review of the state of the art literature and recommendations for future research. Kybernetes, 47, 1456-1490.

Chatzoglou, P. D., & Vraimaki, E. (2009). Knowledge-sharing behavior of bank employees in Greece. Business Process Management Journal, 15(2), 245-266.

Chedid, M., Alvelos, H., & Teixeira, L. (2020). Individual factors affecting attitude toward knowledge sharing: an empirical study on a higher education institution. VINE Journal of Information and Knowledge Management Systems. (Preprint)

Cheng, M. Y., Ho, J. S. Y., & Lau, P. M. (2009). Knowledge sharing in academic institutions: A study of Multimedia University Malaysia. Electronic Journal of Knowledge Management, 7(3), 22-34.

Chennamaneni A., Teng J.T., & Raja M.K., (2012). A unified model of knowledge sharing behaviors: Theoretical development and empirical test. Behavior & Information Technology, 31(11), 1097-1115.

Cherman, A.M., & Rocha-Pinto, S.R. (2016). Valuing of knowledge in organizations and its embedding into organizational practices and routines. Review of Business Management, 18, 416-435.

Farrukh, M., Sajid, M., Zreen, A. & Khalid, R. (2019). Knowledge sharing in higher education institutes: An empirical investigation of individual characteristics. Journal of Applied Research in Higher Education, 12(2), 311-329.

Fornell, C. & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(2), 39-50.

Frey, B.S., & Osterloh, M., (2001). Successful Management by Motivation: Balancing Intrinsic and Extrinsic Incentives, Springer-Verlag, Berlin and Heidelberg.

Fullwood, R., & Rowley, J. (2017). An investigation of factors affecting knowledge sharing amongst UK academics. Journal of Knowledge Management, 21(5), 1254–1271.

Fullwood, R., Rowley, J., & Delbridge, R. (2013). Knowledge sharing amongst academicians in UK universities. Journal of Knowledge Management, 17(1), 123-136.

Granger, C. A., Morbey, M. L., Lotherington, H., Owston, R. D., & Wideman, H. H. (2002). Factors contributing to teachers' successful implementation of IT. Journal of Computer Assisted Learning, 18(4), 480–488.

Gravett, S. & Petersen, N. (2007). You just try to find your own way: the experience of newcomers to academia. International Journal of Lifelong Education, 26(2), 193-207.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1984). Multivariate data analysis with readings, 1995. Tulsa, Oklahoma: Petroleum Publishing.

Hislop, D., Bosua, R., & Helms, R. (2018). Knowledge management in organizations: A critical introduction. Oxford: Oxford University Press.

Hou, H. T., Sung, Y. T., & Chang, K. E. (2009). Exploring the behavioral patterns of an online knowledge-sharing discussion activity among teachers with problem-solving strategy. Teaching and Teacher Education, 25(1), 101-108.

Hsu, M. H., & Chiu, C. M. (2004). Internet self-efficacy and electronic service acceptance. Decision Support Systems, 38(3), 369-381.

Hsu, M. H., Ju, T. L., Yen, C. H., & Chang, C. M. (2007). Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. International Journal of Human-Computer Studies, 65(2), 153-169.

Jasimuddin, S. M., & Zhang, Z. P. (2014). Knowledge management strategy and organizational culture. Journal of Operational Research Society, 65(10), 1490–1500.

Javaid, J., Soroya, S., & Mahmood, K. (2020). Impact of personal and organizational factors on knowledge sharing attitude of university teachers in Pakistan. The Electronic Library, 38(2), 23-39.

Jen-Te., Y. (2007). Knowledge sharing: Investigating appropriate leadership roles and collaborative culture. Tourism Management, 28(2), 530-543.

Jeon, S., Kim, Y. G., & Koh, J. (2011). An integrative model for knowledge sharing in communities-of-practice. Journal of Knowledge Management, 15(2), 251-269.

Jolaee, A., Md Nor, K., Khani, N. & Md Yusoff, R. (2014). Factors affecting knowledge sharing intention among academic staff. International Journal of Educational Management, 28(4), 413-431.

Kankanhalli, A., Tan, B.C.Y., & Wei, K.K. (2005). Contributing knowledge to electronic knowledge repositories: an empirical investigation, MIS Quarterly, 29(1), 113-143.

Kanwal, S., Nunes, M. B., & Arif, M. (2019). Knowledge management practice in South Asian higher education institutions. IFLA Journal, 45(4), 309-321.

Karim, D. N., & Majid, A. H. A. (2019). Barriers to knowledge sharing among academics in tertiary institutions. First International Conference on Materials Engineering and Management - Management Section (1-6). Atlantis Press

Kelloway, E. K., & Barling, J. (2000). Knowledge work as organizational behavior. International Journal of Management Reviews, 2(3), 287-304.

Kim, S. & Ju, B. (2008). An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic institution. Library & Information Science Research, 30(4), 282-290

Koh, J.H.L., Chai, C.S., & Tay, L.Y. (2014). TPACK-in-action: unpacking the contextual influences of teachers' construction of technological pedagogical content knowledge (TPACK). Computers & Education,78, 20-29.

Kuo, F.Y., & Young M.L. (2008). Predicting knowledge sharing practices through intention: a test of competing models. Computers in Human Behavior 24(6), 2697–2722.

Laycock, M. (2005). Collaborating to compete: achieving effective knowledge sharing in organizations. The Learning Organization, 12(6), 523-538.

Lekhawipat, W., Wei, Y. H., & Lin, C. (2018). How internal attributions affect knowledge sharing behavior. Journal of Knowledge Management, 22(4), 867-886.

Lin, H. & Lee, G. (2004). Perceptions of senior managers toward knowledge-sharing behavior. Management Decision, 42(1), 108-125.

Lin, H.F. (2007). Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions. Journal of Information Science, 33(2) 135-49.

Liou, D. K., Chih, W. H., Yuan, C. Y., & Lin, C. Y. (2016). The study of the antecedents of knowledge sharing behavior: The empirical study of Yambol online test community. Internet Research, 26(4), 845-868.

Lunardi, M.A., Zonatto, V.C., & Nascimento, J.C. (2019). Effects of Job Involvement, Managerial Attitudes, and Information Sharing on Controllers' Performance in the Budgetary Context. Review of Business Management, 21, 540-562.

Marouf, L. (2016). The role of knowledge sharing culture in business performance. VINE Journal of Information Management System, 46(2), 154–174.

Muqadas, F., Rehman, M., Aslam, U., & Rahman, (2017). Exploring the challenges, trends and issues for knowledge sharing. VINE Journal of Information and Knowledge Management Systems, 30(4), 46-62.

Newman, J.H. & Turner, F.M. (1996). The Idea of a University. London: Yale University Press.

Nguyen, T. M., Nham, P. T. & Hoang, V. N. (2019). The theory of planned behavior and knowledge sharing: A systematic review and meta-analytic structural equation modeling. VINE Journal of Information and Knowledge Management Systems, 49(1), 76-94.

Nunnally, J. & Berstein, I., (1994). Psychometric theory. New York: McGraw Hill.

O'Dell, C. & Grayson, C.J. (1998). If only we knew what we know: identification and transfer of internal best practices. California Management Review, 40(3), 154-174.

Radaelli, G., Lettieri, E., & Masella, C. (2015). Physicians' willingness to share: a TPB-based analysis. Knowledge Management Research & Practice, 13(1), 91-104.

Rahab, R., & Wahyuni, P. (2013). Predicting knowledge sharing intention based on theory of reasoned action framework: An empirical study on higher education institution. American International Journal of Contemporary Research, 3(1), 1-10.

Ramayah, T., Yeap, J.A.L. & Ignatius, J. (2014). An Empirical Inquiry on Knowledge Sharing Among Academicians in Higher Learning Institutions. Minerva, 51, 131–154

Raza, I., & Awang, Z. (2021). Knowledge-sharing practices in higher educational institutes of Islamabad, Pakistan: an empirical study based on theory of planned behavior. Journal of Applied Research in Higher Education. 13(2). 466-484.

Razmerita, L., Kirchner, K. & Nielsen, P. (2016). What factors influence knowledge sharing in organizations? A social dilemma perspective of social media communication. Journal of Knowledge Management, 20(6), 1225-1246.

Ryan R. L., Deci E. L., (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist. 55, 68–78.

Ryu S., Ho S.E., & Han I. (2003). Knowledge sharing behavior of physicians in hospitals. Experts Systems with Applications 25(1), 113–122.

Santhose, S. S., & Lawrence, L. N. (2023). Understanding the implementations and limitations in knowledge management and knowledge sharing using a systematic literature review. Current Psychology, 1-16.

Sekaran U. (2003). Research Method for Business: A skill building approach. Malaysia: John Wiley & Sons Inc.

Shah, S. R., & Mahmood, K., (2013). Knowledge-sharing behavior in dairy sector of Pakistan. Library Philosophy and Practice (e-journal). 917.

Sheeran, P., & Webb, T. L. (2016). The intention–behavior gap. Social and personality psychology compass, 10(9), 503-518.

Sniehotta, F. F., Presseau, J. & Araújo-Soares, V. (2014). Time to retire the theory of planned behavior, Health Psychology Review, 8(1), 1-7

Sohail, M. S., & Daud, S. (2009). Knowledge sharing in Higher Education Institutions: perspectives from Malaysia. Vine, 39(2), 125–142.

Sveiby, K.E., & Simons, R. (2002). Collaborative climate and effectiveness of knowledge work – an empirical study. Journal of Knowledge Management, 6(5), 420-433.

Tan, C. N. L. (2016). Enhancing knowledge sharing and research collaboration among academics: The role of knowledge management. Higher Education, 71 (4), 525–556.

Tohidinia, Z., & Mosakhani M. (2010). Knowledge sharing behavior and its predictors. Industrial Management & Data Systems 110(4), 611–631.

Wang, S., & Noe, R.A. (2010). Knowledge sharing: A review and directions for future research. Human Resource Management Review, 20(2), 115–131.

Wasko, M.M. & Faraj, S. (2000). It is what one does: why people participate and help others in electronic communities of practice. Journal of Strategic Information Systems, 9(2-3), 155-173.

Witherspoon, C.L., Bergner, J., Cockrell, C. & Stone, D.N. (2013). Antecedents of organizational knowledge sharing: a meta-analysis and critique. Journal of Knowledge Management, 17(2), 250-277

Zawawi, A. A., Zakaria, Z., Kamarunzaman, N. Z., Noordin, N., Sawal, M. Z. H. M., Junos, N. M., & Najid, N. S. A. N. (2011). The study of barrier factors in knowledge sharing: A case study in public university. Management Science and Engineering, 5(1), 59-70.