

**Nexus of knowledge management and organizational performance: a cross-country study of China and Pakistan higher educational institutes**

Author

Sahibzada, Umar Farooq, Thomas, Asha, Sumbal, M Saleem Ullah Khan, Malik, Mehwish

Published

2022

Journal Title

Kybernetes

Version

Accepted Manuscript (AM)

DOI

[10.1108/K-08-2021-0768](https://doi.org/10.1108/K-08-2021-0768)

Rights statement

This accepted manuscript is distributed under the Creative Commons Attribution-NonCommercial 4.0 International license (<https://creativecommons.org/licenses/by-nc/4.0/>).

Downloaded from

<https://hdl.handle.net/10072/422042>

Griffith Research Online

<https://research-repository.griffith.edu.au>

© Emerald Publishing Limited. This AAM is provided for your own personal use only. It may not be used for resale, reprinting, systematic distribution, emailing, or for any other commercial purpose without the permission of the publisher.

The following publication Farooq Sahibzada, U., Thomas, A., Sumbal, M.S.U.K. and Malik, M. (2023), "Nexus of knowledge management and organizational performance: a cross-country study of China and Pakistan higher educational institutes", *Kybernetes*, Vol. 52 No. 12, pp. 6348-6378 is published by Emerald and is available at <https://dx.doi.org/10.1108/K-08-2021-0768>.

1     **Nexus of knowledge management and organizational performance: A cross-country study**  
2                                     **of China and Pakistan Higher Educational Institutes**

3     **ABSTRACT**

4     **Purpose** – The study explores the impact of knowledge management (KM) enablers, i.e., trust and  
5     organizational climate, on KM processes. It further observes the indirect relationship of KM  
6     processes on organizational performance via the mediating role of knowledge workers' satisfaction  
7     in cross-cultural settings.

8     **Design/methodology/approach** – This research used a survey of 784 educational and  
9     administrative personnel from higher education institutions (HEIs) in Pakistan and China. Smart  
10    PLS 3.2.9 was employed to perform the analysis.

11    **Findings** – The result shows that trust and organizational climate influences KM processes, and  
12    these KM processes, in turn, impact organizational performance via the partial mediating effect of  
13    knowledge worker satisfaction (KWS) in Pakistan. The multi-group analysis confirmed the  
14    substantial differential effect of KM processes on KWS in culturally different HEIs. At the same  
15    time, the study's overall sample substantiated full mediation in China. Furthermore, the impact of  
16    KM processes on organizational performance did not substantiate in China.

17    **Practical implications** – Outcomes of this research affirm KM university practice and recommend  
18    how higher education academics and administrators prioritize trust, organizational climate, KM  
19    processes, and KWS while strengthening organizational performance in a culturally different  
20    environment.

21    **Originality/value** – A lack of research ascertains the inter-relationship between trust,  
22    organizational climate, KM processes, KWS, and organizational performance in culturally  
23    different environments. This is one of the initial studies that examine the relationship between

1 trust, organizational climate, KM processes, KWS, and organizational performance in HEIs. The  
2 study empirically examines the inter-relationships among these variables and enlightens insights  
3 into the current literature by immediately investigating the mediating role of KWS in culturally  
4 different environments.

5 **Keywords:** *Trust, Organizational Climate, KM Processes; Knowledge Worker Satisfaction;*  
6 *Organizational Performance; Cross-Culture.*

## 7 **1. INTRODUCTION**

8 Higher education institutions (HEIs) are persuaded to create, acquire, store, share, and  
9 apply knowledge (Laal, 2011; Sahibzada et al., 2020b). The metamorphic and reframing shift in  
10 higher education has influenced and surpassed the old, stale, and decomposed teaching customs  
11 (Ramjeawon and Rowley, 2018). As a result, HEIs scramble to extract and disseminate novel  
12 knowledge (Bano and Taylor, 2015). HEIs are important for knowledge creation, acquisition,  
13 storage, distribution, and utilization, contributing to social, economic, and technological  
14 advancement (Iqbal et al., 2019, Mohammad et al., 2022). The administration and faculty of HEIs  
15 will improve their progression and amenities with the help of knowledge, i.e., education,  
16 knowledge, study, curriculum growth, administration, and planned expansion (Ahmad et al., 2017,  
17 Iqbal et al., 2019; Zutshi et al., 2021).

18 Knowledge management is critical for improving collaboration and research that drives  
19 organizational performance (Ramjeawon and Rowley, 2018, Sahibzada et al., 2020a; Thomas and  
20 Gupta, 2022a). Despite the importance of knowledge and KM in university provision, there has  
21 been very little recognition that universities are knowledge-intensive institutions (Schmitz et al.,  
22 2014. Zutshi et al., 2021), and a lack of KM and research in this area is a significant deficiency in  
23 this regard (Iqbal et al., 2019).

1           Several researchers have defined and examined organizations' KM skills regarding KM  
2 processes and enablers (Iqbal et al., 2019, Rehman and Iqbal, 2020; Rios-Ballesteros and Fuerst,  
3 2021). KM are actions related to KM processes that improve the HEIs reasonable benefits (Barley  
4 et al., 2018, Iqbal et al., 2019). Despite the existence of such a significant indication of the role of  
5 KM in the current literature, insufficient research has verified the association between KM  
6 enablers and the successful implementation of KM processes in HEIs (Fullwood and Rowley,  
7 2017; Iqbal et al., 2019; Shafait et al., 2021; Guzman et al., 2022), particularly in the context of  
8 emerging and developing countries in the higher education sector (Fullwood and Rowley, 2017;  
9 Iqbal et al., 2019). Furthermore, KM is more likely to lead to more radical progress in KM  
10 processes, such as assurance in the form of trust (Koohang et al., 2017, Lei et al., 2019) and  
11 organizational climate (Al-Abdullat and Dababneh, 2018), both of which improve KM processes  
12 (Thani and Mirkamali, 2018; Sahibzada et al. 2020c). On a fundamental level, trust is directly  
13 related to KM (McNeish and Mann, 2010). Trust is evident as a factor and an outcome of  
14 interpersonal relationships (Thomas and Gupta, 2019; Sahibzada et al., 2020; Yasir et al., 2017).  
15 Trust strengthens people's relationships. These above-stated associations provide additional  
16 evidence to trust each other, which is the foundation for refining individuals' KM activities (Holste  
17 and Fields, 2010; Thomas and Paul, 2019). Consequently, scholars urge an empirical study to  
18 enhance the role of organizational characteristics (i.e., trust and organizational climate) in the  
19 successful implementation of KM processes in HEIs (Muqadas et al., 2017). Thus, the first main  
20 objective of this present study is to fill the gap by including trust and organizational climate as  
21 important enablers of KM processes.

22           Second, the direct effect mechanism of KM processes on OP remains unclear (Iqbal et al.,  
23 2019; Delshab et al., 2022). Preliminary empirical studies have studied the mechanism of KM

1 processes impact on HEIs outcomes (Ahmad et al., 2017; Iqbal et al., 2019). Furthermore, Iqbal et  
2 al. (2019) stressed the need to investigate the mediating variables. Current research on the KM  
3 processes and OP relationship in knowledge-intensive industries has suggested examining  
4 knowledge workers' satisfaction as an intervening variable among KM processes and OP  
5 (Sahibzada et al., 2020b; Sahibzada et al., 2020; Shujahat et al., 2018). Knowledge workers'  
6 satisfaction as an intervening variable between KM and organizational performance is mostly  
7 neglected because the authors could not identify any evidence linking knowledge workers'  
8 satisfaction to OP improvements, specifically in cross-culture studies. Despite increased study on  
9 KWS, its significance in expanding OP is rarely discussed in educational cross-country settings  
10 (Bratianu and Bejinaru, 2017; Chatterji and Kiran, 2017; Shujahat et al., 2018).

11 Moreover, knowledge is the primary contribution of knowledge workers; hence KM's  
12 optimal providing of knowledge to knowledge workers boosts their satisfaction without question  
13 (Kianto et al., 2016; Sahibzada et al., 2020b). Therefore, KM increases the satisfaction of  
14 knowledge workers, which can contribute to enhanced HEI outcomes (Sahibzada et al., 2020b;  
15 Shujahat et al., 2018). This study utilizes knowledge workers' satisfaction as a mediator to examine  
16 the interaction between KM processes and OP. Therefore, in the second objective of the present  
17 study, KWS was considered a mediating variable in the relationship between KM processes and  
18 organizational performance. HEIs' KM processes research are either insufficient or unpredictable  
19 (Fullwood and Rowley, 2017), and there is a need to investigate factors that contribute to improved  
20 KM (Iqbal et al., 2019), particularly in emerging economies such as China and developing  
21 countries like Pakistan (Peng et al., 2010; Turner and Acker, 2017). Preliminary research has been  
22 conducted on Chinese and Pakistani HEIs (Lo, 2016, Sahibzada et al., 2020a; Sahibzada et al.,  
23 2020d).

1           Pakistan and China have lower-than-average static KM processes (Sahibzada et al., 2021).  
2 To effectively improve organizational performance in cross-cultural settings among academics and  
3 administration , KM processes should be a significant factor in improving organizational  
4 efficiency (Iqbal et al., 2019, Sahibzada et al., 2020a, Sahibzada et al., 2020d). Because of the  
5 differences between the (emerging) Chinese and (developing) Pakistani economies, which are  
6 becoming more vital globally, the current study selected Pakistan and China to evaluate the  
7 interrelationships between trust, organizational climate, KM processes, KWS, and organizational  
8 (HEI) performance (Munir et al., 2019).

9           According to cultural analysts, Chinese culture has a complex framework that must be  
10 understood. Furthermore, according to Lewin (2019), a low-trust cultural group is exemplified in  
11 a country like China as people there trust only those who are like their family and one or two close  
12 lifetime friends. On the other hand, Pakistan is defined by studies as a collectivist, high-power  
13 distance society (Hofstede, 2001, Lewin, 2018). It is widely assumed that the underlying relevance  
14 of social culture in this country is based on authority figures who promise to harmonize the entire  
15 population. They stress the significance of power and politics in Pakistani society. It is still widely  
16 assumed that Pakistanis think, feel, and act in a limited manner. It is more acquainted with regional  
17 identities and subcultures such as castes, local communities, and language groups. Furthermore,  
18 many countries, including Pakistan, benefit directly or indirectly from China's rapid economic  
19 growth (Munir et al., 2019). Because both countries work in a variety of fields and employ students  
20 for work and research, they have a shared understanding of academic and administrative workloads  
21 (Iqbal et al., 2019, Sahibzada et al., 2020a, 2020d, 2020e) and their impact on organizational  
22 efficiency can provide significant results from which both countries can benefit. This study  
23 assumes that the known knowledge gaps of KM in HEIs are filled to bridge limitations, and thus

1 the current research makes many theoretical contributions to the current literature by evaluating  
2 the interrelationship between trust, organizational climate, KM processes, KWS, and  
3 organizational performance. The research examines whether KWS intervenes in the association  
4 between the KM processes and organizational performance in cross-cultural circumstances. The  
5 study will offer a structure for insight into the mediating device by which the processes of the KM  
6 impact the result of ethically different HEIs. This study will considerably help accept and  
7 emphasize the KM role in Chinese and Pakistani HEIs, with a considerably restricted study on the  
8 position of the KM in Pakistan and Chinese HEIs. This research helps in adding to the area of the  
9 KM in the higher education sector and explains the following:

10 (a) Herzberg theory (Herzberg, 1974) and

11 (b) Knowledge-based view (KBV) (Grant, 1996).

12 Based on the literature gaps, the following research questions (RQs) are proposed:

13 **RQ1:** Do trust and the organizational climate at universities in China and Pakistan effect KM  
14 processes?

15 **RQ2:** Do KM processes have a direct effect on organizational performance in the universities of  
16 Pakistan and China?

17 **RQ3:** Does KWS mediate the relationship in the universities of Pakistan and China between KM  
18 processes and organizational performance?

19 **RQ4:** Are there any differences in the significance of the relationship between HEIs of Pakistan  
20 and China?

## 21 **2. HYPOTHESES DEVELOPMENT AND RESEARCH FRAMEWORK**

## 2.1 Theoretical Underpinnings

To explain the interlinkages of KM enablers (i.e., trust, organizational climate), KM processes, KWS, and organizational performance with a research framework that is constructed on (1) KBV theory (Grant, 1996) and the KM capability model (Gold et al., 2001), (2) Herzberg theory (Herzberg, 1966, 1974).

Gold et al. (2001) have divided KM Capability Model into Knowledge Process Capability and Knowledge Infrastructure Capability. Knowledge Process Capability represents KM processes (i.e., creation, acquisition, storage, sharing, and utilization), and the Knowledge Infrastructure Capability signifies the enablers of KM processes, i.e., organizational climate and trust (Butt et al., 2018; Iqbal et al., 2019; Sahibzada et al., 2020b; Shujahat et al., 2018). The KM Capability Model promotes that an organization's efficiency depends on Knowledge Infrastructure Capability, ensuring that KM processes facilitate the environment. This helps in enhancing organizational performance persistently.

Knowledge-based view relies on an organization's resource-based view and includes significant, exceptional, and limited knowledge benefits and traits (Grant, 1996). Furthermore, KBV asserts that knowledge is a critical advantage in organizations as it significantly benefits a "sustainable competitive edge" (Grant, 1996). Thus, organizations can function effectively and efficiently by administering and employing their knowledge and understanding (Seleim and Khalil, 2007, Zack et al., 2009). Based on the theoretical views, the present research suggests an integrated model that investigates the interconnection between trust, organizational climate, KM processes, KWS, and organizational performance.



1           This study has a strong theoretical connection with Herzberg’s theory. Herzberg's approach  
2 has two main conclusions: (a) hygienic considerations and (b) motivational elements (Herzberg,  
3 1966, 1974).

4           (a) Hygiene factors (also known as job dissatisfiers) are extrinsic work environment  
5 components.

6           (b) Motivating factors are intrinsic work elements that lead to satisfaction. KM processes  
7 ensure the withdrawal of dissatisfaction while motivating factors signify reinforcement (Shujahat  
8 et al., 2018, Sahibzada et al., 2020a, Sahibzada et al., 2020d).

## 9           **2.2 Trust and Knowledge Management Processes**

10           As per Mayer et al., (1995), trust means a trustor’s readiness to accept other trustees’  
11 actions based on the expectation that a trustor’s particular important action can be achieved by the  
12 trustee irrespective of the ability to scrutinize or control the other party. Trust needs a partner’s  
13 reliability and an intent to execute on that reliability (Moorman et al., 1992, Sahibzada et al.,  
14 2020c). There is a connection between trust and KM at a basic level (McNeish and Mann, 2010,  
15 Yasir and Majid, 2017, Sahibzada et al., 2020c). Trust is the driving force resulting from  
16 interpersonal connections (Ford, 2004). There is an improved connection between different  
17 people’s associations because trust and more features help people have faith in each other (Holste  
18 and Fields, 2010). This forms the initial foundation for improving a person’s KM behavior in HEIs  
19 (Yasir et al., 2017). Trust inspires the growth of connections (Whisnant and Khasawneh, 2014,  
20 Koohang et al., 2017). The research identifies that personnel’s trust positively impacts KM  
21 activities in an organization (Dirks and Ferrin, 2002). Trustworthy individuals will be simple and  
22 keen to impart their specific knowledge and expertise (Lee et al., 2010). Trust in leaders and trust

1 between co-workers significantly impact the KM processes (Lee et al., 2010). The management  
2 literature proved the considerable impact of trust on the KM processes (sharing knowledge in  
3 HEIs) (Yasir and Majid, 2017, Yasir et al., 2017). This is because trust between workers produces  
4 an emotional connection (Chowdhury, 2005), makes the baseline stronger for the worker to support  
5 and attract information between other members (Levin et al., 2006), and consent to create, acquire,  
6 store, share, and utilize knowledge (Zand, 1972). According to Zand (1972), people or groups with  
7 more trust amongst members are reasonable and distribute added information than people or  
8 groups experiencing less confidence amongst associates. Lewin (2018) stated that “low and high-  
9 trust cultural group is exemplified by country, for example, people in China trust completely only  
10 those they best like their family and one or two close lifetime friends compared to Pakistan. Thus,  
11 based on the earlier mentioned discussion, the following hypothesis is suggested:

12 **H1a:** Trust has a positive and significant effect on KM processes.

### 13 **2.3. Organizational Climate and Knowledge Management Processes**

14 Janz et al. (1997) explained that organizational climate is the general practice of shared  
15 faith and values followed by an organization. The organizational climate can alter KM  
16 performance (Jones et al., 2006, Sahibzada et al., 2020c). The impact of organizational climate on  
17 the KM processes is a strong factor found in the literature on KM (Lin and Lee, 2006, Jain et al.,  
18 2015). Organizations with an enhanced organizational climate increase dealing between workers,  
19 and there is excessive knowledge sharing for creative opinions (Edmondson, 1999, Chen and  
20 Huang, 2007). When there are original ideas, a collaboration between individuals is important in  
21 advancing those thoughts (Sveiby and Simons, 2002). Individual-produced new organizational  
22 knowledge is set up through group communication (Floyd and Lane, 2000).

1           Organizations can improve individuals' readiness to relate with people by developing an  
2 organizational climate (Chen and Huang, 2007, Sahibzada et al., 2020c). Members work jointly  
3 and share the information that supports everyone's performance if the organizational climate is  
4 positive (Janz and Prasarnphanich, 2003). According to Davenport and Prusak (1998) and Dixon  
5 (2000), factors like an honest exchange of ideas and employees' anxiety to work are important for  
6 routing KM (acquisition, sharing, and utilization). Also, assurance from the management and the  
7 recognition of hazards are mentioned in the literature as important aspects of climate in an  
8 organization that allows the processes of KM (Pérez et al., 2004, Lee et al., 2006). Based on the  
9 earlier discussion, the following hypothesis is presented:

10 **H1b:** Organizational climate positively and significantly affects KM processes.

#### 11           **2.4 Knowledge Management Processes and Organizational Performance**

12           As organizations have unstable business surroundings, knowledge is a medium for  
13 reasonable, sustainable benefits (Masa'deh et al., 2017, Shahzadi et al., 2021). Organizational  
14 knowledge benefits worth can be measured when these benefits are utilized to produce or generate  
15 products, deliver services, sell, or do business for the price (Wiig, 1999). Thus, organizational  
16 performance can be advanced by efficiently applying the previously created, stored, transferred,  
17 and applied knowledge (Alavi and Leidner, 2001). Similarly, KM is gaining prominence in HEIs  
18 due to its performance-driven nature (Masa'deh et al., 2017). On the other hand, OP depends on  
19 the efficient management and utilization of available knowledge-based resources, as well as the  
20 productive implementation of KM processes (Mahdavi and Hesamamiri, 2014; Shahzadi et al.,  
21 2021). As per KBV, knowledge-related reserves are the important and planned reserves that  
22 elevate organizational performance (Grant, 1996, Donate and Guadamillas, 2015). Also, KBV  
23 supports the idea that influences and continues with the ability to produce, convey, and use the

1 information to encourage organizational performance (Martelo-Landroguez and Cepeda-Carrión,  
2 2016). Information-focused services rely on the effective execution of organizational knowledge  
3 (Obeidat et al., 2016). Likewise, organizational combined knowledge, result, and output with the  
4 help of new creative ideas, goods, and services are made to the subsequent level with the help of  
5 acquisition, sharing, and utilization of knowledge (Chiu and Chen, 2016, Masa'deh et al., 2017).  
6 Knowledge-sharing improves the research functioning in HEIs (Mahamed Ismail et al., 2015).  
7 Based on the current literature, it has been observed and verified that there is an important and  
8 positive association between KM processes and organizational performance (Chiu and Chen, 2016,  
9 Ngah et al., 2016, Shahzad et al., 2016). Ahmad et al. (2017) and Iqbal et al. (2019) demonstrated  
10 a significant and direct association between KM processes and HEIs performance.

11 **H2:** KM processes significantly positively and directly affect organizational performance.

## 12 **2.5 Knowledge Management Processes, Knowledge Worker Satisfaction, and** 13 **Organizational Performance**

14 The positive impact of processes of KM on the fulfillment of KWS is supported by  
15 Herzberg's Two Factors Theory (Herzberg, 1966, Herzberg, 1974). The two important conclusions  
16 from Herzberg's Two Factors Theory are hygiene and motivators (Herzberg, 1966, Herzberg,  
17 1974). Methods of KM verification, particularly KM processes, supply the hygiene elements to  
18 avoid discontent and reinforce the need for incentives (Shujahat et al., 2018). The KM verifies that  
19 compensation, management help, and reasonable behavior are needed for employees' satisfaction  
20 along with the condition of hygiene elements (Drucker, 1998, Drucker, 1999, Kulkarni et al., 2006,  
21 Donate and de Pablo, 2015). The KM processes also impact motivators and motivating elements  
22 with the help of the following motivation elements (Drucker, 1999, Turriago-Hoyos et al., 2016,  
23 Liu et al., 2017, Palvalin, 2017, Palvalin et al., 2017, Shujahat et al., 2018):

1 Providing knowledge workers with subsequent motivational underpinnings includes:

2 (a) Presenting employees with complete autonomy in the job;

3 (b) Producing a learning and information culture that impacts the KWS on KM processes;

4 (c) Permitting employees to participate in knowledge activities thus, helps them with  
5 intrinsic motivation to generate and maintain knowledge and information (Nonaka and  
6 Takeuchi, 1995).

7 (d) Allocating the work to workers to generate, impart, and use the information;

8 (e) Ensuring the conditions for maintaining employment services.

9 Knowledge management can act as a catalyst for KWS (Sahibzada et al., 2020a). The  
10 following reasoning supports the earlier-mentioned discussion (Razmerita et al., 2016, Shujahat et  
11 al., 2018, Sahibzada et al., 2020):

12 First, the literature assessment postulates that subjective criteria like KWS should examine  
13 KM. This means that knowledge-worker satisfaction is important for KM effectiveness (Sahibzada  
14 et al., 2020a, Sahibzada et al., 2020d, Sahibzada et al., 2020e, Shahzadi et al., 2021, Sahibzada et  
15 al., 2021g).

16 Furthermore, monetary incentives do not motivate knowledge workers (Sahibzada et al.,  
17 2020a; Shahzadi et al., 2021). They are encouraged when they are allowed to face challenges  
18 associated with knowledge-based activities (Sahibzada et al., 2020e). KM provides knowledge  
19 workforces with this encounter and the possibility of solving knowledge-related problems.  
20 Through its policies, KM provides knowledge workers with the right amount and type of  
21 knowledge at the right time and place (Shujahat et al., 2018, 2020a, 2021)

1           The use of information helps in making the work easy. The present research maintains that  
2 knowledge creation, acquisition, storage, sharing, and utilization can increase the fulfillment of  
3 KWS as the new information can enhance the knowledge workers' output (Sahibzada et al.,  
4 2020e). In addition, sharing knowledge ensures that employees' interpersonal requirements are  
5 fulfilled (Shahzadi et al., 2021). Thus, KM processes aid in the fulfillment of KWS.

6           Knowledge management processes and knowledge-worker satisfaction can be derived  
7 from the earlier research on KM and an employee's fulfillment. Prior experiential research relates  
8 to KM scope, particularly the sharing of information and work contentment acquired directly or  
9 not (Kianto et al., 2016, Butt et al., 2018, Shujahat et al., 2018). This covers KM processes and  
10 fulfillment with interrelations relating to KM (Chou et al., 2005, Chatzoudes et al., 2015). A few  
11 scholars established the impact of processes of KM on worker's fulfillment directly and indirectly  
12 (Lim et al., 1999, Sharma, 2008, Bontis and Serenko, 2009, Singh and Sharma, 2011).

13           The previous studies elaborated on the impact of KM processes on employee satisfaction  
14 but were inconclusive because:

15           (1) No study is available that investigates the influence of second-order constructs of the  
16           procedures of the management of knowledge on workers' contentment in specific research,  
17           specifically in a cross-cultural context.

18           (2) These researches do not replicate the information attained from the knowledge of  
19           employees, particularly from the information-based service sector HEIs.

20           (3) The earlier research aimed not to directly observe the impact of KM processes on the  
21           knowledge employees' fulfillment. Also, these studies observed the connection as a  
22           secondary hypothesis in an element of the broad model.

1 (4) Many of the earlier-mentioned studies reproduce the fulfillment in a job as an alternative  
2 to an employee's fulfillment because of knowledge management.

3 The present research investigates the impact of KM processes (creation, acquisition, storage,  
4 sharing, and utilization) on organizational performance with the mediating role of KWS.

5 A complete valuation of the literature depicts that KM promotes organizational performance  
6 (Pang and Lu, 2018, Viñas-Bardolet et al., 2018). This augments the fulfillment of KWS (Shujahat  
7 et al., 2018, Sahibzada et al., 2020). Hence, observing the association between processes of KM,  
8 KWS, and HEIs performance are significant (Table 1).

9 **H3:** Knowledge management processes have a significant and positive impact on KWS.

10 **H4:** KWS has a significant and positive impact on organizational performance.

11 **H5:** KWS mediates the association between the KM processes and organizational  
12 performance.

13

14

15

16

17

18

19

1 *Table 1: Comparison of Previous studies on KM Enablers, Knowledge Management Processes, and Knowledge Worker Satisfaction*

Author (s), Year	KM enablers	KM processes	Knowledge Worker Satisfaction	Industry	Country	Findings
<b>Relationship Among Enablers</b>						
Bennett and Gabriel (1999)	Structure, Culture, Size, Environment, <b>KM Method</b>	N/A	N/A	Marketing Firms	United Kingdom	The substantial effect of change friendly culture on the number of KM methods employed
<b>Relationship Between Enablers and Processes</b>						
Zander and Kogut (1995)	Characteristics of societal knowledge	<b>Transfer (time to transfer)</b>	N/A	Project Base Engineering Firms	Sweden	Modifiability, teachability, and parallel development significantly affect the time to knowledge transfer.
Appleyard (1996)	Industry and national characteristics	<b>Transfer (number of times the respondents provide and receive knowledge in each period)</b>	N/A	Steel Industry	The United States and Japan	Public sources of knowledge are much more prevalent in knowledge transfer in semiconductors than in the steel industry; public sources of technical knowledge play a more significant role in knowledge transfer in japan than in the united states.
Szulanski (1996)	Characteristics of knowledge transferred source recipient source	<b>Transfer (Four-Stage transfer processes)</b>	N/A	Corporate Companies	United Kingdom	The recipient's lack of absorptive capacity, causal ambiguity, and arduousness of the relationship are the major impediments to knowledge transfer.
Hansen (1999)	Weak ties (distant and infrequent relationships); knowledge characteristics	<b>Transfer (percentage of a project's total knowledge that comes from other divisions)</b>	N/A	Electronic and Computer Companies	United States	Weak ties impede the transfer of complex knowledge.
Iqbal et al. (2019)	Leadership, Culture, Incentives	<b>Knowledge Acquisition, Knowledge Sharing, Knowledge Utilization</b>	N/A	Higher Educational Institutes	Pakistan	Leadership support, organizational culture, and incentives are mandatory for successful implementation of KM processes
Sahibzada et al. (2020c)	Trust, Organizational Climate	<b>Knowledge, Creation, Knowledge Acquisition, Knowledge Storage, Knowledge Sharing, Knowledge Utilization</b>	N/A	Higher Educational Institutes	China	Trust and Organizational Climate are the key components to influence KM processes positively.
<b>Relationship Between KM Processes and Knowledge Worker Satisfaction</b>						
Shahzadi et al., (2021)	N/A	Knowledge Identification, Knowledge Creation, Knowledge Acquisition, Knowledge Organizing,	<b>Knowledge Worker Satisfaction</b>	Software Industry	China	Knowledge management processes influence project success via knowledge worker satisfaction as a mediator both directly and indirectly. Moreover, the study found partial mediation of knowledge worker



		Knowledge Storage, Knowledge Sharing, Knowledge Utilization				satisfaction between knowledge management processes and project success.
Sahibzada et al. (2020a)	N/A	Knowledge Acquisition, Knowledge Sharing, Knowledge Utilization	<b>Knowledge Worker Satisfaction</b>	Higher Education Institute	Pakistan	KM processes (i.e., acquisition, sharing and utilization) assist KWS via improved knowledge systems and learning, enhanced organizational operations, capabilities, and personnel's cognitive methods
Shujahat et al. (2018)	N/A	Knowledge Creation, Knowledge Sharing, Knowledge Utilization	<b>Knowledge Worker Satisfaction</b>	Software Houses	Pakistan	Knowledge creation and knowledge sharing have a positive impact on knowledge worker satisfaction.
<i>Note: Boldface type indicates dependent variables</i>						

1

2

## 2.6 Knowledge Management Enabler (S), Knowledge Management Processes, Knowledge Worker Satisfaction, and Organizational Performance: The Contextual Influence

The World Economic Forum's Global Competitiveness Report defined three groups of countries according to the economic development stage as mentioned in Munir et al., (2009, P. 559 ) “ The World Economic Forum's Global Competitiveness Report defined three groups of countries according to their economic-development stage, based on their GDP and other related variables: factor-driven economies; efficiency-driven economies; and innovation-driven economies. Factor-driven economies are in the early stages of economic development and mainly depend on their agriculture sector. Efficiency-driven economies are characterized by increased productivity and the development of small-scale or medium-sized manufacturing sectors. Innovation-driven economies are characterized by their research, technology, and innovation advancements, more sophisticated production processes, and improved products. Of the two countries in this study, Pakistan is factor-driven, and China is efficiency-driven”.

Thus, Pakistan is a factor-driven economy, and China is an efficiency-driven economy (Sahibzada et al., 2021), highlighting the importance of context. It also emphasized that knowledge management is context-dependent, i.e., the processes (Knowledge creation, sharing, and application) and enablers (e.g., technology) for a particular organization and environment might not work for other organizations with different contextual backgrounds and characteristics (Sumbal et al., 2020). Hence, the background of KM processes is often seen as a specific culture and context (Iqbal et al., 2019, Sahibzada et al., 2020a, Sahibzada et al., 2020d), and various levels of country-based influence have been assigned to organizational performance through KM processes (Ahmed et al., 2021, Sahibzada et al., 2020b, Sahibzada et al., 2020d;). Therefore, to

1 determine KM processes, the country's specific context should be considered (Sumbal et al., 2021,  
 2 Sahibzada et al., 2020b); for example, knowledge creation might not be applicable in certain  
 3 developing countries' contexts in industries utilizing the existing knowledge through knowledge  
 4 application and knowledge sharing (e.g., Ahmed et al., 2021). In addition, economies differ in  
 5 terms of their economic circumstances, level of progress, environment, and background (Munir et  
 6 al., 2019), which may cause differences in the strength of KM enabler(s), KM processes, KM  
 7 satisfaction, and organizational performance relationships.

8 **H6:** The impact of (a) trust on KM processes, (b) organizational climate on KM processes, (c)  
 9 KM processes on organizational performance, (d) KM processes on KWS, and (e) KWS on  
 10 organizational performance is likely to differ between Pakistan and China (Figure 1).

11 **Conceptual Framework**

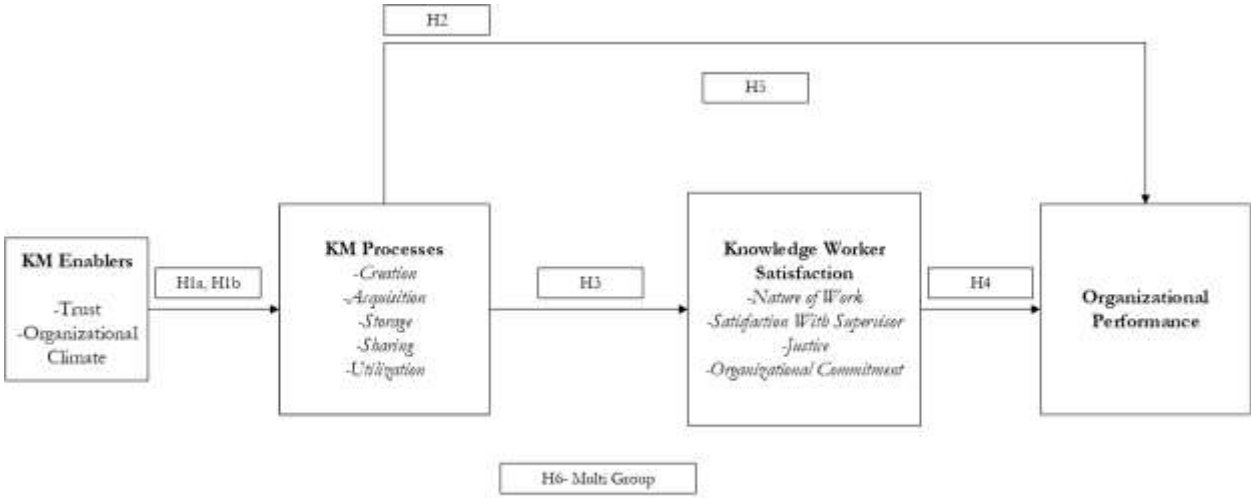


Figure 1: Conceptual Framework

12

13 **3. METHODOLOGY**

14 **3.1. Sample, Sampling Technique, and Data Collection**

15 As per the developing and emerging economies, economies based on knowledge depend only  
 16 on university functioning that can finally impact the growth and economy of a society (Sahibzada

1 et al., 2019, Sahibzada et al., 2020b). Thus, research-related activities should be an element of  
2 universities in emerging economies like China and developing economies like Pakistan. The  
3 Ministry of Education of the People’s Republic of China and the Higher Education Commission,  
4 Pakistan, encourage investigative surroundings that lead to higher education studies or university  
5 research activities (Lo, 2016, Iqbal et al., 2019). The research proposals considered by the Ministry  
6 of Education of the People's Republic of China and the Higher Education Commission of Pakistan  
7 are still in the infancy stage in HEIs. This needs an active KM to meet the knowledge-based  
8 economy obstacles (Feiz et al., 2019).

9 This research presents Pakistan and Chinese public and private universities’ academic and  
10 administrative staff as the considered population. They are engaged in succeeding in “multi-  
11 disciplinary education and investigating nature and technology, engineering, and social sciences.  
12 The questionnaires were distributed in English in Pakistan, as English is the official language for  
13 communication. In China, the questionnaire was distributed in both English and Chinese. The  
14 questionnaire was translated into the Chinese language by a Chinese language expert and further  
15 validated by a senior professor in the field of Business and Management from Northwestern  
16 Polytechnical University, Xi’an. The study utilizes the convenience sampling technique. There  
17 were 1,120 questionnaires distributed in two major cities of China, namely, eight public  
18 universities in Xi’an and Chengdu. There were 609 questionnaires collected from sixteen Chinese  
19 universities and ticked a response rate of 54.3%. The number of discarded questionnaires was 73  
20 (both unfinished and unacceptable). The remaining 536 questionnaires were kept for data analysis  
21 as these ticked a response rate of 47.8% for statistical examination from china. The Pakistan  
22 sample had 600 distributed questionnaires from sixteen universities in two cities, i.e., Peshawar  
23 and Islamabad. The collected response was 309, i.e., an overall response rate of 51.5%. The

1 number of unacceptable and missing questionnaires was 61 which were discarded. 248  
 2 questionnaires were used for data analysis, and the response rate of used questionnaires was 41.3%.  
 3 Data were collected from August 2019 to January 2020. This is the correct sample dimension for  
 4 applying the structural equation modeling to examine the complicated path model (Kline, 2011).  
 5 (For respondent profiles, see table 2a and 2b)  
 6 *Table 2a: Profile of Respondents from China*

Demographics Variables	Frequency	Percentage
<b><i>City</i></b>		
Xi'an	325	60.6%
Chengdu	211	39.4%
<b><i>Age</i></b>		
20-29	187	34.9%
30-39	155	28.9%
40-49	129	24.1%
50-59	65	12.1%
<b><i>Gender</i></b>		
Male	345	64.4%
Female	191	35.6%
<b><i>Education</i></b>		
Ph.D.	349	65.1%
Masters	187	34.9%
<b><i>Job Tenure</i></b>		
0-5	187	34.9%
6-10	153	28.5%
10-15	52	9.7%
16-20	81	15.1%
20-25	40	7.5%
26-30	23	4.3%
<b><i>Area</i></b>		
Administration	147	27.4%
Academics	389	72.6%

**Designation**

Professor	65	12.1%
Associate Professor	130	24.3%
Assistant Professor	154	28.7%
Lecturer	40	7.5%
Administrators	147	27.4%

**Institutions**

Northwestern Polytechnical University	59	11.0%
Shaanxi Normal University	46	8.6%
Northwest University	49	9.1%
Northwest Agriculture and Forestry University	38	7.1%
Xi'an Jiaotong University	39	7.3%
Chang'an University	36	6.7%
Xidian University	34	6.3%
Xi'an Architecture University	25	4.7%
Sichuan University	25	4.7%
Southwest Jiaotong University	12	2.2%
Southwestern University of Finance and Economics	40	7.5%
Sichuan Normal University	22	4.1%
Chengdu University	22	4.1%
Chengdu University of Technology	32	6.0%
Chengdu University of Science and Technology	23	4.3%
University of Electronic Science and Technology of China	34	6.3%

1

2 *Table 2b: Profile of Respondents from Pakistan*

<b>Demographics Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>City</b>		
Islamabad	111	44.8%
Peshawar	137	55.2%
<b>Age</b>		
20-29	85	34.3%
30-39	70	28.2%
40-49	57	23.0%
50-59	36	14.5%
<b>Gender</b>		
Male	139	56.0%
Female	109	44.0%
<b>Education</b>		
Ph.D.	164	66.1%

Masters	84	33.9%
<b>Job Tenure</b>		
0-5	84	33.9%
6-10	70	28.2%
10-15	36	14.5%
16-20	24	9.7%
20-25	24	9.7%
26-30	10	4.0%
<b>Area</b>		
Administration	74	29.8%
Academics	174	70.2%
<b>Designation</b>		
Professor	35	14.1%
Associate Professor	59	23.8%
Assistant Professor	73	29.4%
Lecturer	7	2.8%
Administrators	74	29.8%
<b>Institutions</b>		
Abasyn University	19	7.7%
City University	12	4.8%
Institute of Management Sciences	14	5.6%
Islamia College University	20	8.1%
University of Engineering and Technology	14	5.6%
Shaheed Benazir Bhutto Women University	15	6.0%
CECOS University	14	5.6%
Qurtaba University	17	6.9%
Sarhad University	12	4.8%
Bahria University	15	6.0%
Comsats University	18	7.3%
Institute of Space Technology	13	5.2%
Riphah University	20	8.1%
Air University	15	6.0%
International Islamic University	18	7.3%
Shaheed Zulfikar Ali Bhutto Institute of Science and Technology	12	4.8%

### 1      **3.2. Instrumentation**

2      Fifty-five measurement items were used in this research. Constructs were adapted from  
3 previous studies, as given in Table 3. In the meantime, the language in the articles was modified  
4 to run parallel with university understandings (Sahibzada et al., 2019). A five-point Likert scale  
5 was employed in the present research. This varies from “1”, i.e., “strongly disagree,” to “5”  
6 denoting “Strongly Agree”.

7      *Table 3: Sources of Measurement Instruments*

Variable	Dimension	No. of Items	Source
Knowledge Management Enablers	Trust	04	Huff and Kelley (2003)

	Organizational Climate	10	Bock et al. (2005)
Knowledge Management Processes	Creation	06	Bryant and Terborg (2008)
	Acquisition	03	Huang and Li (2009)
	Storage	04	Masa'deh et al. (2017)
	Sharing	04	Bryant and Terborg (2008)
	Utilization	05	Lee et al. (2005); Huang and Li (2009)
Knowledge Worker Satisfaction	Nature of Work	03	Weiss et al. (1967)
	Satisfaction with Supervisor	04	Smith (1976)
	Justice	04	Magner et al. (1994)
	Organizational Commitment	03	Porter et al. (1974)
Organizational Performance		05	Tseng (2010)

### 3.3. Analysis of Data

The study is examined by Smart PLS 3.2.9 (Ringle et al., 2005). Partial Least Square Structural Equation Modeling (PLS-SEM) was selected for examining “quantifiable information.” PLS-SEM is a rising “knowledge-processing” method that is applied in business and social science studies to administer sample size and “non-normal evidence” effectively (Hair et al., 2014). This method is appropriate for testing the accessible hypotheses and contains complicated structural models (Fernandes, 2012, Ringle et al., 2018). Two approaches apply to the SEM method: Covariance-based (CB-SEM) and PLS-SEM (Hair et al., 2012). PLS-SEM is applied to the present research instead of CB-SEM as the same is best suited for complicated associations among the dormant concepts and searching theoretical levels (Henseler et al., 2009, Hair et al., 2014). This method is applied in theory validation and for examination. It is best suited for examining whether there are many connections (Fornell and Larcker, 1981). A twofold analysis is used for PLS-SEM. These are Measurement Model Calculation (outer model) and Structural Model Analysis (inner model) (Wong, 2013, Ringle et al., 2018). Measurement Model requirements guarantee that these viewpoints are suitable for pointer loading, convergent validity, composite reliability, and



1 discriminant validity, expanding to the Structural Model. Measuring path coefficients are  
 2 employed in the evaluation of the Structural Model. Also, the current information management  
 3 analytical literature has applied the PLS-SEM data processing technique (Shujahat et al., 2018,  
 4 Sahibzada et al., 2020a).

## 5 4. DATA ANALYSIS

### 6 4.1. Assessment Of Measurement Model

7 The Measurement Model's first assessment phase was done to verify the construct's reliability  
 8 and validity (Hair, 2006). There were 55 items in the procedure. In the Measurement Model, no  
 9 items were dropped as all the factor loadings were more than the recommended value of 0.600  
 10 (Hair et al., 2016). Thus, all questions were retained in the last measurement procedure (Table 4).  
 11 The average variance extracted (AVE) and composite reliability of all the constructs are equivalent  
 12 to or exceed the values of 0.50 and 0.70. Thus, convergent validity and reliability are verified for  
 13 both countries and the complete sample. Also, Table 5-a, 5-b, and 5c depict the discriminant  
 14 validity outcome via Fornell and Larcker criterion. Hence, there were no items removed, and  
 15 discriminant validity was ascertained.

16 *Table 4. Item Loadings, Reliability, and Convergent Validity*

Constructs	China				Pakistan				Overall			
	L	$\alpha$	CR	AVE	L	$\alpha$	CR	AVE	L	$\alpha$	CR	AVE
<b>AQ</b>		<b>0.86</b>	<b>0.91</b>	<b>0.78</b>		<b>0.75</b>	<b>0.86</b>	<b>0.67</b>		<b>0.84</b>	<b>0.90</b>	<b>0.75</b>
AQ1	0.83				0.74				0.80			
AQ2	0.77				0.65				0.75			
AQ3	0.80				0.72				0.77			
<b>C</b>		<b>0.91</b>	<b>0.93</b>	<b>0.70</b>		<b>0.83</b>	<b>0.87</b>	<b>0.54</b>		<b>0.90</b>	<b>0.92</b>	<b>0.66</b>
C1	0.81				0.76				0.79			
C2	0.74				0.68				0.72			

C3	0.77			0.68				0.74				
C4	0.82			0.66				0.79				
C5	0.81			0.56				0.77				
C6	0.80			0.73				0.78				
<b>NOW</b>		<b>0.89</b>	<b>0.93</b>	<b>0.82</b>		<b>0.73</b>	<b>0.85</b>	<b>0.65</b>		<b>0.86</b>	<b>0.92</b>	<b>0.78</b>
NOW1	0.87			0.74				0.85				
NOW2	0.83			0.66				0.80				
NOW3	0.86			0.74				0.83				
<b>OCC</b>		<b>0.85</b>	<b>0.91</b>	<b>0.77</b>		<b>0.65</b>	<b>0.81</b>	<b>0.59</b>		<b>0.81</b>	<b>0.89</b>	<b>0.73</b>
OCC1	0.83			0.69				0.80				
OCC2	0.84			0.75				0.82				
OCC3	0.81			0.62				0.77				
<b>OC</b>		<b>0.94</b>	<b>0.95</b>	<b>0.67</b>		<b>0.91</b>	<b>0.93</b>	<b>0.56</b>		<b>0.94</b>	<b>0.95</b>	<b>0.64</b>
OC1	0.81			0.71				0.79				
OC2	0.77			0.69				0.75				
OC3	0.86			0.77				0.84				
OC4	0.79			0.76				0.78				
OC5	0.88			0.80				0.86				
OC6	0.74			0.67				0.72				
OC7	0.80			0.76				0.79				
OC8	0.87			0.83				0.86				
OC9	0.82			0.72				0.80				
OC10	0.82			0.76				0.80				
<b>PJ</b>		<b>0.89</b>	<b>0.93</b>	<b>0.76</b>		<b>0.80</b>	<b>0.87</b>	<b>0.62</b>		<b>0.88</b>	<b>0.92</b>	<b>0.73</b>
PJ1	0.84			0.77				0.82				
PJ2	0.80			0.67				0.77				
PJ3	0.81			0.67				0.79				
PJ4	0.84			0.73				0.82				
<b>SH</b>		<b>0.87</b>	<b>0.91</b>	<b>0.72</b>		<b>0.71</b>	<b>0.82</b>	<b>0.54</b>		<b>0.85</b>	<b>0.90</b>	<b>0.68</b>
SH1	0.77			0.66				0.74				
SH2	0.87			0.72				0.83				

SH3	0.79			0.56				0.74				
SH4	0.80			0.57				0.75				
<b>ST</b>		<b>0.87</b>	<b>0.91</b>	<b>0.72</b>		<b>0.73</b>	<b>0.83</b>	<b>0.56</b>		<b>0.85</b>	<b>0.90</b>	<b>0.68</b>
ST1	0.81			0.69				0.78				
ST2	0.80			0.60				0.75				
ST3	0.77			0.67				0.75				
ST4	0.83			0.66				0.79				
<b>SWS</b>		<b>0.91</b>	<b>0.94</b>	<b>0.78</b>		<b>0.82</b>	<b>0.88</b>	<b>0.65</b>		<b>0.89</b>	<b>0.92</b>	<b>0.75</b>
SWS1	0.83			0.72				0.81				
SWS2	0.85			0.72				0.83				
SWS3	0.83			0.69				0.80				
SWS4	0.87			0.78				0.85				
<b>T</b>		<b>0.89</b>	<b>0.92</b>	<b>0.75</b>		<b>0.75</b>	<b>0.84</b>	<b>0.57</b>		<b>0.86</b>	<b>0.91</b>	<b>0.71</b>
T1	0.87			0.75				0.84				
T2	0.84			0.63				0.80				
T3	0.86			0.78				0.83				
T4	0.90			0.84				0.88				
<b>OP</b>		<b>0.92</b>	<b>0.94</b>	<b>0.75</b>		<b>0.80</b>	<b>0.86</b>	<b>0.56</b>		<b>0.90</b>	<b>0.93</b>	<b>0.72</b>
OP1	0.86			0.73				0.84				
OP2	0.84			0.74				0.82				
OP3	0.86			0.73				0.84				
OP4	0.89			0.76				0.87				
OP5	0.89			0.79				0.87				
<b>UT</b>		<b>0.90</b>	<b>0.93</b>	<b>0.71</b>		<b>0.90</b>	<b>0.92</b>	<b>0.91</b>		<b>0.90</b>	<b>0.93</b>	<b>0.71</b>
UT1	0.78			0.89				0.67				
UT2	0.81			0.89				0.70				
UT3	0.71			0.85				0.61				
UT4	0.87			0.84				0.74				
UT5	0.78			0.74				0.66				

**Table 5-a: Discriminant Validity (Fornell and Larcker Criterion) “China”**

	<b>AQ</b>	<b>CT</b>	<b>J</b>	<b>NOW</b>	<b>OC</b>	<b>OCc</b>	<b>OP</b>	<b>SH</b>	<b>ST</b>	<b>SWS</b>	<b>T</b>	<b>UT</b>
<b>AQ</b>	<b>0.88</b>											
<b>CT</b>	0.87	<b>0.84</b>										
<b>J</b>	0.77	0.83	<b>0.87</b>									
<b>NOW</b>	0.81	0.80	0.85	<b>0.90</b>								
<b>OC</b>	0.85	0.81	0.81	0.83	<b>0.82</b>							
<b>OCc</b>	0.79	0.82	0.86	0.87	0.81	<b>0.88</b>						
<b>OP</b>	0.69	0.72	0.78	0.76	0.69	0.75	<b>0.87</b>					
<b>SH</b>	0.83	0.81	0.81	0.82	0.80	0.81	0.70	<b>0.85</b>				
<b>ST</b>	0.83	0.82	0.81	0.82	0.79	0.80	0.72	0.81	<b>0.85</b>			
<b>SWS</b>	0.78	0.80	0.86	0.87	0.80	0.87	0.75	0.83	0.85	<b>0.88</b>		
<b>T</b>	0.81	0.81	0.85	0.85	0.81	0.84	0.74	0.81	0.84	0.86	<b>0.87</b>	
<b>UT</b>	0.79	0.83	0.80	0.80	0.77	0.81	0.69	0.92	0.86	0.84	0.83	<b>0.84</b>

**Table 5-b: Discriminant Validity (Fornell and Larcker Criterion) “Pakistan”**

	<b>AQ</b>	<b>CT</b>	<b>J</b>	<b>NOW</b>	<b>OC</b>	<b>OCc</b>	<b>OP</b>	<b>SH</b>	<b>ST</b>	<b>SWS</b>	<b>T</b>	<b>UT</b>
<b>AQ</b>	<b>0.82</b>											
<b>CT</b>	0.79	<b>0.73</b>										
<b>J</b>	0.56	0.66	<b>0.79</b>									
<b>NOW</b>	0.64	0.65	0.72	<b>0.81</b>								
<b>OC</b>	0.73	0.77	0.62	0.66	<b>0.75</b>							
<b>OCc</b>	0.52	0.61	0.75	0.77	0.58	<b>0.77</b>						
<b>OP</b>	0.56	0.60	0.64	0.67	0.55	0.62	<b>0.75</b>					
<b>SH</b>	0.65	0.71	0.68	0.71	0.75	0.65	0.62	<b>0.73</b>				
<b>ST</b>	0.67	0.74	0.63	0.66	0.79	0.55	0.64	0.74	<b>0.75</b>			

SWS	0.53	0.59	0.73	0.72	0.63	0.76	0.64	0.68	0.67	0.80		
T	0.66	0.74	0.74	0.68	0.72	0.66	0.59	0.70	0.70	0.64	0.76	
UT	0.60	0.78	0.66	0.63	0.79	0.62	0.63	0.64	0.65	0.66	0.72	0.84

Table 5-c: Discriminant Validity (Fornell and Larcker Criterion) “Overall”

	AQ	CT	J	NOW	OC	OCc	OP	SH	ST	SWS	T	UT
AQ	<b>0.87</b>											
CT	0.85	<b>0.82</b>										
J	0.73	0.81	<b>0.85</b>									
NOW	0.78	0.78	0.83	<b>0.89</b>								
OC	0.82	0.80	0.77	0.79	<b>0.80</b>							
OCc	0.74	0.79	0.84	0.85	0.77	<b>0.85</b>						
OP	0.67	0.71	0.75	0.75	0.66	0.739	<b>0.85</b>					
SH	0.79	0.80	0.79	0.80	0.76	0.79	0.69	<b>0.83</b>				
ST	0.80	0.78	0.78	0.79	0.77	0.76	0.71	0.81	<b>0.83</b>			
SWS	0.73	0.76	0.84	0.85	0.74	0.80	0.73	0.80	0.82	<b>0.87</b>		
T	0.78	0.80	0.83	0.82	0.77	0.81	0.71	0.79	0.81	0.81	<b>0.84</b>	
UT	0.60	0.63	0.61	0.59	0.70	0.61	0.52	0.72	0.67	0.64	0.64	<b>0.84</b>

Note: The data on the diagonal (in bold) is the square root of the AVE of the construct, while the other values are the correlations with other constructs.

\*\*AQ, Acquisition; CT, Creation; J, Justice; NOW, Nature of Work; OC, Organizational Climate; OCc; Organizational Commitment; OP, Organizational Performance; SH, Sharing; ST, Storage; SWS, Satisfaction with Supervisor; T, Trust; UT, Utilization.

## 4.2. Structural Model Assessment

The results revealed  $R^2$  values in China, .89, .83, and .64 for KM Processes (KMPs), Knowledge Worker Satisfaction (KWS), and Organizational Performance (OP), respectively. In Pakistan, .80, .60, and .54 for KMPs, KWS, and OP, respectively, and in the overall sample, .86, .77, and .62 for KMPs, KWS, and OP, respectively. The  $R^2$  values support the model's in-sample predictive power (Sarstedt et al., 2014) since it is above the required level of .10 (Falk and Miller, 1992). Furthermore, effect sizes are calculated to assess the extent a predicting (exogenous) variable contributes to the  $R^2$  value of an endogenous variable. In this study, KWS was predicted by KMPs, KWS and KMP predicted OP, and Trust and organizational climate predicted KMPs. The relative effect sizes ( $f^2$ ) of the predicting (exogenous) constructs were calculated and show that the exogenous variable has a very big effect on your endogenous variable ( $> .35$ ) (Cohen, 1988) (see table 6)

The hypotheses were investigated in a sequence. At the initial level, trust and organizational climate immediately impacted KM processes. KM processes directly affect KWS at the secondary level, establishing organizational performance. After the critical assessment of the Measurement Model, the assessment of the Structural Model test was completed in the second phase. Bootstrap evaluation of 5,000 resamples was used to analyze the importance of direct paths and test standard errors (Ringle et al., 2005). Table 6 presents the strong link's evaluation findings between China, Pakistan, and the cumulative survey.

Additionally, the intervening effect of KWS among KM processes and organizational performance was verified in China, Pakistan, and the overall study. Lastly, the complete survey was confirmed for both countries. Table 7 describes the mediation analysis.

1 The results revealed a substantial positive influence of trust on KM processes in China ( $\beta =$   
2  $0.27, t = 7.09, p < 0.001$ ), Pakistan ( $\beta = 0.36, t = 5.84, p < 0.001$ ) and the overall study ( $\beta = 0.31,$   
3  $t = 9.22, p < 0.001$ ). Therefore, H1a was supported. Similarly, there is significant influence of  
4 organizational climate on KM processes in China ( $\beta = 0.69, t = 18.80, p < 0.001$ ), Pakistan ( $\beta =$   
5  $0.60, t = 13.30, p < 0.001$ ) and the cumulative results ( $\beta = 0.06, t = 20.78, p < 0.001$ ) thereby  
6 accepting H1b. However, the results revealed an insignificant direct influence of KM processes  
7 and organizational performance in China ( $\beta = 0.10, t = 1.57, p = 0.11$ ) but the relationship was  
8 significant for Pakistan ( $\beta = 0.30, t = 2.83, p < 0.001$ ) and overall survey  $\beta = 0.17, t = 3.28, p <$   
9  $0.001$ ). Hence, H2 was partially substantiated. Additionally, the results also acknowledged that  
10 KM processes has a direct positive influence on KWS in China ( $\beta = 0.91, t = 51.13, p < 0.001$ ),  
11 Pakistan ( $\beta = 0.77, t = 6.44, p < 0.001$ ) and overall survey ( $\beta = 0.88, t = 42.28, p < 0.001$ ), which  
12 lend support to accept the H3. Lastly, we found a significant positive direct impact of KWS on  
13 organizational performance in China ( $\beta = 0.27, t = 7.09, p < 0.001$ ), Pakistan ( $\beta = 0.48, t = 3.46, p$   
14  $< 0.001$ ) and overall survey ( $\beta = 0.63, t = 11.16, p < 0.001$ ) accepting H4.

15 *Table 6: Results of Structural Model Path Coefficient (Direct Relationships)*

Hypotheses	Relations hip	China				Pakistan				Overall			
		$\beta$	SD	t-value	P-Value	$\beta$	SD	t-value	P-Value	$\beta$	SD	t-value	P-Value
H1a	T → KMPs	0.27	0.03	7.09	0.00	0.36	0.06	5.84	0.00	0.31	0.03	9.22	0.00
H1b	OC → KMPs	0.69	0.03	18.80	0.00	0.60	0.04	13.30	0.00	0.06	0.03	20.78	0.00
H2	KMPs → OP	0.10	0.06	1.57	0.11	0.30	0.10	2.83	0.00	0.17	0.05	3.28	0.00

		China				Pakistan				Overall			
		$R^2$	$f^2$	$t$	$p$	$R^2$	$f^2$	$t$	$p$	$R^2$	$f^2$	$t$	$p$
<b>H3</b>	KMPs → KWS	0.91	0.01	51.13	0.00	0.77	0.12	6.44	0.00	0.88	0.02	42.28	0.00
<b>H4</b>	KWS → OP	0.70	0.06	19.22	0.00	0.48	0.13	3.46	0.00	0.63	0.05	11.16	0.00

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14

### 4.3. Mediation Analysis

Also, H5 assesses whether KWS mediates the link between KM processes and organizational performance. The result depicts that with the establishment of the mediator in the model, the direct effect was positive but insignificant ( $\beta = 0.10$ ,  $t = 1.57$ ,  $p = 0.11$ ) for China, while the indirect effect was found significant ( $\beta = 0.64$ ,  $t = 9.45$ ,  $p < 0.001$ ). Hence, the outcome shows a full mediation.

The direct effect for Pakistan ( $\beta = 0.30$ ,  $t = 0.10$ ,  $p < 0.001$ ) and overall survey ( $\beta = 0.17$ ,  $t = 42.28$ ,  $p < 0.001$ ) was significant. Similarly, the indirect effect KWS for Pakistan ( $\beta = 0.37$ ,  $t = 3.11$ ,  $p < 0.001$ ) and overall survey ( $\beta = 0.56$ ,  $t = 9.93$ ,  $p < 0.001$ ) was also significant which shows a partial mediation effect. This further reveals that the influence of KM processes on organizational performance passes through KWS. Consequently, H5 is accepted. Results of mediation analysis are presented in Table 7.



1 *Table 7: Mediation Results*

H5: KMP→ KWS→ OP	Total Effect (KMP→OP)			Direct Effect (KMP→OP)			Specific Indirect Effect (KMP→OP)		
	$\beta$	t-value	P-Value	B	t-value	P-Value	$\beta$	t-value	P-Value
China	0.74	17.63	0.00	0.10	1.57	0.11	0.64	9.45	0.00
Pakistan	0.67	4.414	0.00	0.30	0.10	0.00	0.37	3.11	0.00
Overall	0.73	0.041	0.00	0.17	42.28	0.00	0.56	9.93	0.00

2

3 **4.4. Multi-Group Analysis**

4 The objective of H6 was to validate whether the association between trust, organizational  
 5 climate, KM processes, KWS, and organizational performance differs diagonally between the two  
 6 samples. To verify the variations between the two nations in evaluation, a multi-group analysis  
 7 was conducted to calculate the statistical dissimilarities between the two nations. A non-parametric  
 8 PLS-MGA was led by Henseler et al. (2009). PLS-MGA provides evidence of invariance between  
 9 two countries (Hair et al., 2016).

10 The results showed a substantially different effect of KM processes on KWS in China and  
 11 Pakistan. Thus, H6d is substantiated. However, none of the other variations was important when  
 12 comparing sample countries' effect of KM enablers on KM processes and the impact of KM  
 13 processes on organizational performance. Hypothesized relationship variations were considered  
 14 negligible. Consequently, our results do not support hypotheses H6a, H6b, H6c, and H6e. Thus,  
 15 this demonstrates that the results of KM processes are equivalent in Pakistan and China (Table 8).

16

17

18

1 *Table 8: Multi-Group Comparison (Hypothesis H6a, b, c, d, e)*

	Path Coefficients-diff (China-Pakistan)	p-Value new (China vs. Pakistan)
H6a: T -> KMPs	0.19	0.47
H6b: OC -> KMPs	0.12	0.33
H6c: KMPs -> OP	0.17	0.58
H6d: KMPs -> KWS	0.10	0.02
H6e: KWS -> OP	0.13	0.39

2 *Note: Italic Value shows the significant differences*

### 3 **5. DISCUSSION, CONCLUSION, AND IMPLICATIONS**

#### 4 **5.1. Discussion**

5 The present study investigates the impact of KM enablers (trust and organizational climate)  
 6 on KM processes, as well as the direct impact of KM processes (creation, acquisition, storage,  
 7 sharing, and utilization) on the functioning of an organization in Pakistani and Chinese research  
 8 universities, with the mediating effect of KWS.

9 Trust has a significant impact on KM processes. The trust establishes a critical position to  
 10 authenticate profits to people and institutions (Yasir and Majid, 2017, Yasir et al., 2017). A  
 11 meaningful connection based on trust is found between members in HEIs, which forms a  
 12 constructive connection relationship that increases the concentration to which members support  
 13 and grab information between members and consent to the allocation of relevant information  
 14 (Chowdhury, 2005, Levin et al., 2006). The outcome is consistent with the findings of previous  
 15 studies (Yasir and Majid, 2017, Yasir et al., 2017).

16 Organizational climate is employed as a new enabler in HEIs and focuses on elements that  
 17 support the making of individual connections (Mehra et al., 2001, Tseng and Jung, 2011). This can  
 18 be mentioned that the climate in a firm exhibits a lively function in offering an environment for

1 relational and social exchange (Jaw and Liu, 2003, Chen and Huang, 2007, Tseng and Jung, 2011).  
2 The suggestions verify the claims made in previous research, particularly by Jain et al. (2015) and  
3 Rodriguez et al. (2016). These relate to the significance of climate in a firm to communal message  
4 amongst people.

5 This study ascertains that KM processes considerably impact universities' performance in  
6 research. This presents that in universities conducting research, the real commitment of KM  
7 processes can direct towards improved HEIs performance (Thomas, 2021). The outcome is in  
8 proportion to the KBV theory, which mentions that KM can help administrate competent  
9 knowledge benefits and help achieve higher organizational performance (Grant, 1996). As per  
10 Rowley (2000), knowledge management is important in HEIs, and the outcome of the present  
11 research also validates his results. Also, a positive connection between organizational performance  
12 and KM processes is found in other HEIs research (Ahmad et al., 2017, Latilla et al., 2018,  
13 Abubakar et al., 2019, Iqbal et al., 2019, Meher and Mishra, 2019). Thus, a condition is attached  
14 to the KBV in HEIs that managing information resources efficiently can impact HEIs' functioning.  
15 Also, this study validates with Iqbal et al. (2019) that an organization's strength depends on the  
16 efficient commitment of KM processes, and the organizational performance can establish a lively  
17 reason for the possible practical advantages and increased organizational performance.

18 The present study results convey an important realistic evaluation of the mediating position  
19 of KWS between KM processes and organizational performance. The results show that KM  
20 processes have a meaningful and positive impact on KWS, increasing academic functioning. These  
21 outcomes are equivalent to the previous studies in concentrated knowledge division (Mládková et  
22 al., 2015, Shujahat et al., 2018, Sahibzada et al., 2020). The ending of the present research shows  
23 that KM processes help in KWS concerning enhanced knowledge methods and collective learning

1 and improved organizational evaluation, practice, processes, talents, capability, and peoples'  
2 cognitive methods, thus confirming KBV theory (Grant, 1996, Gold et al., 2001, Shih et al., 2010).  
3 In previous research, sharing information, attainment, and use has been attached to organizational  
4 performance (Wang et al., 2016a, Wang et al., 2016b, Iqbal et al., 2019). This research further  
5 states that KM processes (knowledge acquisition, creation, storage, sharing, and utilization)  
6 accelerate KWS authenticating Herzberg and Drucker's theory (Herzberg, 1966, Herzberg, 1974,  
7 Drucker, 1999, Kianto et al., 2019, Sahibzada et al., 2020). The empirical results of this  
8 investigation support that sharing knowledge and knowledge acquisition, creation, storage, and  
9 utilization can maximize KWS contentment and excellence, ensuring higher levels of  
10 organizational performance and sustainable competitive advantage in advanced educational  
11 activities.

12           However, the multi-group analysis described an insignificant difference in the association  
13 between KM enablers, KM processes, and organizational performance through the interceding  
14 methods of KWS across Pakistan and China. A considerable impact of KM processes on KWS  
15 was established between Pakistan and China. These outcomes showed that KM and their effectual  
16 administration processes are almost the same across diverse societies and districts in the world's  
17 surroundings. Thus, the result proves the current research and upcoming trends on the impact of  
18 KM processes on KWS (Sahibzada et al., 2020a, Sahibzada et al., 2020d, Sahibzada et al., 2020e).  
19 To conclude, KM processes with minor dissimilarities are usually performed in Pakistan and  
20 China.

## 21           **5.2. Conclusion**

22           The findings of this study suggest that KM processes can significantly increase employee  
23 satisfaction, which can help promote organizational performance in HEIs. The analysis also

1 revealed that trust and organizational climate are essential factors in KM processes and that these  
2 factors contribute to organizational performance. According to the study's findings, university  
3 administrations and policymakers should cultivate alternative techniques for knowledge leaders to  
4 ensure effective management and involvement of KM processes among workers in the future  
5 (Rehman and Iqbal, 2020, Sahibzada et al., 2020b, Sahibzada et al., 2021f).

6 Limited studies have looked into the relationship between KM processes and  
7 organizational performance in HEIs (Ahmad et al., 2017, Iqbal et al., 2019, Sahibzada et al.,  
8 2020e). The present work addressed this gap by testing the model in China and Pakistan, and the  
9 mediating effect of KWS previously overlooked in the literature. The current study demonstrates  
10 that the KM processes contribute to knowledge workers' satisfaction regarding improved  
11 knowledge methods and collective learning, organizational evaluation, practice, processes, talents,  
12 capabilities, and people's cognitive procedures. Also, not only knowledge sharing but also  
13 knowledge acquisition, development, storage, and utilization can foster KWS, resulting in greater  
14 operational performance for HEIs. Thus, contributing to the KM literature as the impact of the KM  
15 processes on organizational performance is not yet evident in the literature. To summarize, the  
16 current study adds to the existing literature by assessing trust, organizational climate, KM  
17 processes, KWS, and organizational performance in research institutions in China and Pakistan,  
18 and the findings substantiate the hypothesis that KM processes significantly increase KWS  
19 capacity toward improved organizational performance.

### 20 **5.3. Implications**

21 The study attempted to fill a gap in the existing literature by using the KBV theory to  
22 explain the influence of KM processes on HEIs performance via the mediating role of KWS.  
23 Furthermore, this study expands on an extensive literature analysis on the KBV theory by

1 exploring the links between trust, organizational climate, KM processes, knowledge workers'  
2 satisfaction, and OP from HEIs. The study's findings imply that administrators and educational  
3 officials should embrace and develop knowledge-oriented initiatives to improve organizational  
4 climate and build a trustworthy environment, ultimately improving KM processes among  
5 academicians (Whisnant and Khasawneh, 2014, Sahibzada et al., 2020c).

6 Previous studies have investigated the relationship between KM processes and  
7 organizational performance in research-intensive universities (Sahibzada et al., 2020c, Sahibzada  
8 et al., 2020d). However, in HEIs in cross-cultural settings, the intervening instrument of KWS was  
9 not found and tested. As a result, the findings of this study demonstrated that KM processes  
10 increase knowledge workers' satisfaction, which, in turn, influences the overall performance of HEIs.  
11 This study emphasized the importance of HEIs strengthening their KM processes. Managers in  
12 HEIs should prioritize knowledge creation, acquisition, storage, sharing, and utilization to improve  
13 employee performance. The combination of KM enablers like trust and creating an organizational  
14 climate encourages the administration to invest, which can help HEIs to achieve excellent  
15 performance in this difficult area.

## 16 **Limitations and Future Research Directions**

17 Future studies suggest increasing the sample size using other data collection approaches  
18 such as time-lag or longitudinal research designs. Future researchers may also consider additional  
19 leadership styles as KM enablers, such as sustainable leadership, leader-member exchange,  
20 empowering leadership, or servant leadership. Additionally, KOL can be evaluated in terms of its  
21 dimensions using fsQCA (Sahibzada et al., 2020a), as well as other mediating variables such as  
22 innovation quality (structural, radical, incremental, disruptive), knowledge hiding, knowledge

- 1 coupling, and worker performance, which are still underdeveloped in HEIs. Moreover, the studied
- 2 relationship can be examined at a multi-level to estimate team-level aggregated performance.

## 1 REFERENCES

- 2 Abubakar, A. M., Elrehail, H., Alatailat, M. A. & ElçI, A. 2019. Knowledge management, decision-making style and  
3 organizational performance. *Journal of Innovation Knowledge*, Vol.4, No.2 pp. 104-114.
- 4 Ahmad, N., Lodhi, M. S., Zaman, K. & Naseem, I. 2017. Knowledge management: a gateway for organizational  
5 performance. *Journal of the Knowledge Economy*, Vol.8, No.3 pp. 859-876.
- 6 Ahmed, Q., Sumbal, M. S., Akhtar, M. N., & Tariq, H. (2021). Abusive supervision and the knowledge worker productivity:  
7 the mediating role of knowledge management processes. *Journal of Knowledge Management*, 25(10), 2506-2522.  
8 <https://doi.org/10.1108/JKM-08-2020-0632>
- 9 Alavi, M. & Leidner, D. E. 2001. Knowledge management and knowledge management systems: Conceptual foundations  
10 and research issues. *MIS Quarterly*, Vol.25, No.1 pp. 107-136.
- 11 Appleyard, M. M. 1996. How does knowledge flow? Interfirm patterns in the semiconductor industry. *Strategic Management  
12 Journal*, Vol.17, No.S2 pp. 137-154.
- 13 Bennett, R. & Gabriel, H. 1999. Organisational factors and knowledge management within large marketing departments:  
14 an empirical study. *Journal of Knowledge Management*, Vol.3, No.3 pp. 212-225.
- 15 Bock, G.-W., Zmud, R. W., Kim, Y.-G. & Lee, J.-N. 2005. Behavioral intention formation in knowledge sharing:  
16 Examining the roles of extrinsic motivators, social-psychological factors, and organizational climate. *MIS  
17 Quarterly*, Vol.29, No.1 pp. 87-111.
- 18 Bontis, N. & Serenko, A. 2009. Longitudinal knowledge strategising in a long-term healthcare organisation. *International  
19 Journal of Technology Management*, Vol.47, No.1 pp. 276-297.
- 20 Bryant, S. E. & Terborg, J. R. 2008. Impact of peer mentor training on creating and sharing organizational knowledge.  
21 *Journal of Managerial Issues*, Vol.20, No.1 pp. 11-29.
- 22 Butt, M. A., Nawaz, F., Hussain, S., Sousa, M. J., Wang, M., Sumbal, M. S. & Shujahat, M. 2018. Individual knowledge  
23 management engagement, knowledge-worker productivity, and innovation performance in knowledge-based  
24 organizations: the implications for knowledge processes and knowledge-based systems. *Computational Mathematical  
25 Organization Theory*, Vol.25, No.3 pp. 336-356.
- 26 Chatzoudes, D., Chatzoglou, P. & Vraimaki, E. 2015. The central role of knowledge management in business operations:  
27 Developing a new conceptual framework. *Business Process Management Journal*, Vol.21, No.5 pp. 1117-1139.
- 28 Chen, C.-J. & Huang, J.-W. 2007. How organizational climate and structure affect knowledge management—The social  
29 interaction perspective. *International Journal of Information Management*, Vol.27, No.2 pp. 104-118.
- 30 Chiu, C.-N. & Chen, H.-H. 2016. The study of knowledge management capability and organizational effectiveness in  
31 Taiwanese public utility: the mediator role of organizational commitment. *SpringerPlus*, Vol.5, No.1 pp. 1520-  
32 1554.
- 33 Chou, T.-C., Chang, P.-L., Tsai, C.-T. & Cheng, Y.-P. 2005. Internal learning climate, knowledge management process and  
34 perceived knowledge management satisfaction. *Journal of Information Science*, Vol.31, No.4 pp. 283-296.
- 35 Chowdhury, S. 2005. The role of affect-and cognition-based trust in complex knowledge sharing. *Journal of Managerial Issues*,  
36 Vol.17, No.3 pp. 310-326.
- 37 Davenport, T. H. & Prusak, L. 1998. *Working knowledge: How organizations manage what they know*, Boston, USA, Harvard  
38 Business Press.
- 39 Dirks, K. T. & Ferrin, D. L. 2002. Trust in leadership: Meta-analytic findings and implications for research and practice.  
40 *Journal of Applied Psychology*, Vol.87, No.4 pp. 611.
- 41 Dixon, N. M. 2000. *Common knowledge: How companies thrive by sharing what they know*, Harvard Business School Press.
- 42 Donate, M. J. & De Pablo, J. D. S. 2015. The role of knowledge-oriented leadership in knowledge management practices  
43 and innovation. *Journal of Business Research*, Vol.68, No.2 pp. 360-370.
- 44 Donate, M. J. & Guadamillas, F. 2015. An empirical study on the relationships between knowledge management,  
45 knowledge-oriented human resource practices and innovation. *Knowledge Management Research Practice*, Vol.13, No.2  
46 pp. 134-148.
- 47 Drucker, P. F. 1998. Management's new paradigms. *Forbes Magazine*, Vol.10, No.2 pp. 98-99.
- 48 Drucker, P. F. 1999. Knowledge-worker productivity: The biggest challenge. *California Management Review*, Vol.41, No.2 pp.  
49 79-94.
- 50 Edmondson, A. 1999. Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, Vol.44,  
51 No.2 pp. 350-383.
- 52 Feiz, D., Dehghani Soltani, M. & Farsizadeh, H. 2019. The effect of knowledge sharing on the psychological empowerment  
53 in higher education mediated by organizational memory. *Studies in Higher Education*, Vol.44, No.1 pp. 3-19.
- 54 Fernandes, V. 2012. (Re) discovering the PLS approach in management science. *M@ n@ gement*, Vol.15, No.1 pp. 101-  
55 123.



- 1 Floyd, S. W. & Lane, P. J. 2000. Strategizing throughout the organization: Managing role conflict in strategic renewal.  
2 *Academy of Management Review*, Vol.25, No.1 pp. 154-177.
- 3 Ford, D. P. 2004. Trust and knowledge management: the seeds of success. *Handbook on Knowledge Management 1*. Springer.
- 4 Fornell, C. & Larcker, D. F. 1981. Evaluating structural equation models with unobservable variables and measurement  
5 error. *Journal of Marketing Research*, Vol.18, No.1 pp. 39-50.
- 6 Gold, A. H., Malhotra, A. & Segars, A. H. 2001. Knowledge management: An organizational capabilities perspective.  
7 *Journal of Management Information Systems*, Vol.18, No.1 pp. 185-214.
- 8 Grant, R. M. 1996. Toward a knowledge-based theory of the firm. *Strategic Management Journal*, Vol.17, No.S2 pp. 109-122.
- 9 Hair, J. F. 2006. *Multivariate Data Analysis*, Upper Saddle River, NJ, Pearson Education.
- 10 Hair, J. F., Hult, G. T. M., Ringle, C. & Sarstedt, M. 2016. *A primer on partial least squares structural equation modeling (PLS-  
11 SEM)*, Los Angeles, Sage publications.
- 12 Hair, J. F., Ringle, C. M. & Sarstedt, M. 2012. Partial least squares: the better approach to structural equation modeling?  
13 *Long Range Planning*, Vol.45, No.5-6 pp. 312-319.
- 14 Hair, J. F., Sarstedt, M., Hopkins, L. & Kuppelwieser, V. G. 2014. Partial least squares structural equation modeling  
15 (PLS-SEM) An emerging tool in business research. *European Business Review*, Vol.26, No.2 pp. 106-121.
- 16 Hansen, M. T. 1999. The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits.  
17 *Administrative Science Quarterly*, Vol.44, No.1 pp. 82-111.
- 18 Henseler, J., Ringle, C. M. & Sinkovics, R. R. 2009. The use of partial least squares path modeling in international  
19 marketing. *New challenges to international marketing*. Bingley: Emerald Group Publishing Limited.
- 20 Herzberg, F. 1966. *Work and the nature of man*, Oxford, England.
- 21 Herzberg, F. 1974. *The Motivation-Hygiene Concept and Problems of Manpower Personnel Administration*, Provo, Utah, BYU  
22 Electronic Media Department.
- 23 Holste, J. S. & Fields, D. 2010. Trust and tacit knowledge sharing and use. *Journal of Knowledge Management*, Vol.14, No.1  
24 pp. 128-140.
- 25 Huang, J.-W. & Li, Y.-H. 2009. The mediating effect of knowledge management on social interaction and innovation  
26 performance. *International Journal of Manpower*, Vol.30, No.3 pp. 285-301.
- 27 Huff, L. & Kelley, L. 2003. Levels of organizational trust in individualist versus collectivist societies: A seven-nation study.  
28 *Organization Science*, Vol.14, No.1 pp. 81-90.
- 29 Iqbal, A., Latif, F., Marimon, F., Sahibzada, U. F. & Hussain, S. 2019. From knowledge management to organizational  
30 performance: Modelling the mediating role of innovation and intellectual capital in higher education. *Journal of  
31 Enterprise Information Management*, Vol.32, No.1 pp. 36-59.
- 32 Jain, K. K., Sandhu, M. S. & Goh, S. K. 2015. Organizational climate, trust and knowledge sharing: insights from Malaysia.  
33 *Journal of Asia Business Studies*, Vol.9, No.1 pp. 54-77.
- 34 Janz, B. D., Colquitt, J. A. & Noe, R. A. 1997. Knowledge worker team effectiveness: The role of autonomy,  
35 interdependence, team development, and contextual support variables. *Personnel Psychology*, Vol.50, No.4 pp. 877-  
36 904.
- 37 Janz, B. D. & Prasarnphanich, P. 2003. Understanding the antecedents of effective knowledge management: the  
38 importance of a knowledge-centered culture. *Decision Sciences*, Vol.34, No.2 pp. 351-384.
- 39 Jaw, B. S. & Liu, W. 2003. Promoting organizational learning and self-renewal in Taiwanese companies: the role of HRM.  
40 *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan  
41 in alliance with the Society of Human Resources Management*, Vol.42, No.3 pp. 223-241.
- 42 Jones, M. C., Cline, M. & Ryan, S. 2006. Exploring knowledge sharing in ERP implementation: an organizational culture  
43 framework. *Decision Support Systems*, Vol.41, No.2 pp. 411-434.
- 44 Kianto, A., Shujahat, M., Hussain, S., Nawaz, F. & Ali, M. 2019. The impact of knowledge management on knowledge  
45 worker productivity. *Baltic Journal of Management*, Vol.14, No.2 pp. 178-197.
- 46 Kianto, A., Vanhala, M. & Heilmann, P. 2016. The impact of knowledge management on job satisfaction. *Journal of  
47 Knowledge Management*, Vol.20, No.4 pp. 621-636.
- 48 Kline, R. B. 2011. *Principles and practice of structural equation modeling* New York, NY, The Guilford Press.
- 49 Koohang, A., Paliszkievicz, J. & Goluchowski, J. 2017. The impact of leadership on trust, knowledge management, and  
50 organizational performance: A research model. *Industrial Management Data Systems*, Vol.117, No.3 pp. 521-537.
- 51 Kulkarni, U. R., Ravindran, S. & Freeze, R. 2006. A knowledge management success model: Theoretical development and  
52 empirical validation. *Journal of Management Information Systems*, Vol.23, No.3 pp. 309-347.
- 53 Latilla, V. M., Frattini, F., Petruzzelli, A. M. & Berner, M. 2018. Knowledge management, knowledge transfer and  
54 organizational performance in the arts and crafts industry: a literature review. *Journal of Knowledge Management*,  
55 Vol.22, No.6 pp. 1310-1331.
- 56 Lee, Gillespie, N., Mann, L. & Wearing, A. 2010. Leadership and trust: Their effect on knowledge sharing and team  
57 performance. *Management Learning*, Vol.41, No.4 pp. 473-491.

- 1 Lee, K. C., Lee, S. & Kang, I. W. 2005. KMPI: measuring knowledge management performance. *Journal of Information*  
2 *Management*, Vol.42, No.3 pp. 469-482.
- 3 Lee, M. K., Cheung, C. M., Lim, K. H. & Ling Sia, C. 2006. Understanding customer knowledge sharing in web-based  
4 discussion boards: An exploratory study. *Internet Research*, Vol.16, No.3 pp. 289-303.
- 5 Levin, D. Z., Whitener, E. M. & Cross, R. 2006. Perceived trustworthiness of knowledge sources: The moderating impact  
6 of relationship length. *Journal of Applied Psychology*, Vol.91, No.5 pp. 1163-1171.
- 7 Lim, K. K., Ahmed, P. K. & Zairi, M. 1999. Managing for quality through knowledge management. *Total Quality*  
8 *Management*, Vol.10, No.4-5 pp. 615-621.
- 9 Lin, H.-F. & Lee, G.-G. 2006. Effects of socio-technical factors on organizational intention to encourage knowledge  
10 sharing. *Management Decision*, Vol.44, No.1 pp. 74-88.
- 11 Liu, C.-H., Wang, J. S. & Lin, C.-W. 2017. The concepts of big data applied in personal knowledge management. *Journal of*  
12 *Knowledge Management*, Vol.21, No.1 pp. 213-230.
- 13 Lo, W. Y. W. 2016. The concept of greater China in higher education: adoptions, dynamics and implications. *Comparative*  
14 *Education*, Vol.52, No.1 pp. 26-43.
- 15 Magner, N., Johnson, G. G. & Elfrink, J. 1994. Evidence on the relationship between procedural and distributive justice  
16 in performance appraisal and accounting faculty attitudes and performance. *Journal of Accounting Education*, Vol.12,  
17 No.4 pp. 325-341.
- 18 Mahamed Ismail, N. A., Welch, C. & Xu, M. 2015. Towards a sustainable quality of university research: knowledge sharing.  
19 *Knowledge Management Research Practice*, Vol.13, No.2 pp. 168-177.
- 20 Martelo-Landroguez, S. & Cepeda-Carrión, G. 2016. How knowledge management processes can create and capture value  
21 for firms? *Knowledge Management Research Practice*, Vol.14, No.4 pp. 423-433.
- 22 Masa'deh, R. E., Shannak, R., Maqableh, M. & Tarhini, A. 2017. The impact of knowledge management on job  
23 performance in higher education: The case of the University of Jordan. *Journal of Enterprise Information Management*,  
24 Vol.30, No.2 pp. 244-262.
- 25 Mayer, R. C., Davis, J. H. & Schoorman, F. D. 1995. An integrative model of organizational trust. *Academy of Management*  
26 *Review*, Vol.20, No.3 pp. 709-734.
- 27 Mcneish, J. & Mann, I. J. S. 2010. Knowledge sharing and trust in organizations. *IUP Journal of Knowledge Management*, Vol.8,  
28 No.1/2 pp. 18-38.
- 29 Meher, J. R. & Mishra, R. K. 2019. Assessing the influence of knowledge management practices on organizational  
30 performance. *VINE Journal of Information Knowledge Management Systems*, Vol.49, No.3 pp. 440-456.
- 31 Mehra, A., Kilduff, M. & Brass, D. J. 2001. The social networks of high and low self-monitors: Implications for workplace  
32 performance. *Administrative Science Quarterly*, Vol.46, No.1 pp. 121-146.
- 33 Mládková, L., Zouharová, J. & Nový, J. 2015. Motivation and knowledge workers. *Procedia-Social Behavioral Sciences*, Vol.207,  
34 No.4 pp. 768-776.
- 35 Moorman, C., Zaltman, G. & Deshpande, R. 1992. Relationships between providers and users of market research: the  
36 dynamics of trust within and between organizations. *Journal of Marketing Research*, Vol.29, No.3 pp. 314-328.
- 37 Munir, H., Jianfeng, C. & Ramzan, S. 2019. Personality traits and theory of planned behavior comparison of entrepreneurial  
38 intentions between an emerging economy and a developing country. *International Journal of Entrepreneurial Behavior*  
39 Vol.25, No.3 pp. 554-580.
- 40 Ngah, R., Tai, T. & Bontis, N. 2016. Knowledge management capabilities and organizational performance in roads and  
41 transport authority of Dubai: The mediating role of learning organization. *Knowledge Process Management*, Vol.23,  
42 No.3 pp. 184-193.
- 43 Nonaka, I. & Takeuchi, H. 1995. *The knowledge-creating company: How Japanese companies create the dynamics of innovation*, Oxford  
44 university press.
- 45 Obeidat, B. Y., Al-Suradi, M. M., Masa'deh, R. E. & Tarhini, A. 2016. The impact of knowledge management on  
46 innovation: An empirical study on Jordanian consultancy firms. *Management Research Review*, Vol.39, No.10 pp.  
47 1214-1238.
- 48 Palvalin, M. 2017. How to measure impacts of work environment changes on knowledge work productivity—validation  
49 and improvement of the SmartWoW tool. *Measuring Business Excellence*, Vol.21, No.2 pp. 175-190.
- 50 Palvalin, M., Van Der Voordt, T. & Jylhä, T. 2017. The impact of workplaces and self-management practices on the  
51 productivity of knowledge workers. *Journal of Facilities Management*, Vol.15, No.4 pp. 423-438.
- 52 Pang, K. & Lu, C.-S. 2018. Organizational motivation, employee job satisfaction and organizational performance: An  
53 empirical study of container shipping companies in Taiwan. *Maritime Business Review*, Vol.3, No.1 pp. 36-52.
- 54 Pérez, L. S., Manuel, M. P. J. & José, V. O. C. 2004. Managing knowledge: the link between culture and organizational  
55 learning. *Journal of Knowledge Management*, Vol.8, No.6 pp. 93-104.
- 56 Porter, L. W., Steers, R. M., Mowday, R. T. & Boulian, P. V. 1974. Organizational commitment, job satisfaction, and  
57 turnover among psychiatric technicians. *Journal of Applied Psychology*, Vol.59, No.5 pp. 603-609.

- 1 Razmerita, L., Kirchner, K. & Nielsen, P. 2016. What factors influence knowledge sharing in organizations? A social  
2 dilemma perspective of social media communication. *Journal of Knowledge Management*, Vol.20, No.6 pp. 1225-1246.
- 3 Rehman, U. U. & Iqbal, A. 2020. Nexus of knowledge-oriented leadership, knowledge management, innovation and  
4 organizational performance in higher education. *Business Process Management Journal*, Vol.26, No.6 pp. 1731-1758.
- 5 Ringle, C. M., Sarstedt, M., Mitchell, R. & Gudergan, S. P. 2018. Partial least squares structural equation modeling in HRM  
6 research. *The International Journal of Human Resource Management*, Vol.1, No.1 pp. 1-27.
- 7 Ringle, C. M., Wende, S. & Will, A. 2005. SmartPLS 2.0 (M3) Beta. Hamburg, Germany: University of Hamburg.
- 8 Rodriguez, I. A., Garcia, A., Morais, S. C., Muniz, J. & Munyon, T. P. Workers' Perspective About Organizational Climate  
9 in Knowledge Management: Automotive Assembly-Line Case. IFIP International Conference on Advances in  
10 Production Management Systems, 2016. Springer, 723-730.
- 11 Rowley, J. 2000. Is higher education ready for knowledge management? *International Journal of Educational Management*,  
12 Vol.14, No.7 pp. 325-333.
- 13 Sumbal, M. S., Tsui, E., Durst, S., Shujahat, M., Irfan, I., & Ali, S. M. (2020). A framework to retain the knowledge of  
14 departing knowledge workers in the manufacturing industry. *VINE journal of information and knowledge  
15 management systems*, 50(4), 631-651. <https://doi.org/10.1108/VJIKMS-06-2019-0086>
- 16 Sumbal, M. S. U. K., Irfan, I., Durst, S., Sahibzada, U. F., Waseem, M. A., & Tsui, E. (2021). Knowledge retention in oil  
17 and gas industry – the case of contract workforce. *Kybernetes*, ahead-of-print(ahead-of-print).  
18 <https://doi.org/10.1108/K-06-2021-0458>
- 19 Sahibzada, H. F., Jianfeng, C., Sahibzada, U. F., Khalid, R. & Afshan, G. 2021. Unpacking knowledge management and  
20 organizational performance: a comparison between emerging and developing countries. *Aslib Journal of Information  
21 Management*, Vol.73, No.6 pp. 793-813.
- 22 Sahibzada, U. F., Cai, J., Latif, K. F. & Sahibzada, H. F. 2020. Knowledge management processes, knowledge worker  
23 satisfaction, and organizational performance. *Aslib Journal of Information Management*, Vol.72, No.1 pp. 112-129.
- 24 Sahibzada, U. F., Cai, J., Latif, K. F. & Sahibzada, H. F. 2020a. Knowledge management processes, knowledge worker  
25 satisfaction, and organizational performance: Symmetric and asymmetrical analysis. *Aslib Journal of Information  
26 Management*, Vol.72, No.1 pp. 112-129.
- 27 Sahibzada, U. F., Cai, J., Latif, K. F., Shafait, Z. & Sahibzada, H. F. 2020b. Interpreting the Impact of Knowledge  
28 Management Processes on Organizational Performance in Chinese Higher Education: Mediating Role of  
29 Knowledge Worker Productivity. *Studies in Higher Education*.
- 30 Sahibzada, U. F., Cai, J., Latif, K. F., Shah, S. A. & Sahibzada, H. F. 2020c. Refuelling knowledge management processes  
31 towards organisational performance: mediating role of creative organisational learning. *Knowledge Management  
32 Research Practice*.
- 33 Sahibzada, U. F., Jianfeng, C., Latif, F. & Shafait, Z. 2019. Development and validation of a multidimensional instrument  
34 for measuring internal marketing in Chinese higher education. *Journal of Enterprise Information Management*, Vol.32,  
35 No.3 pp. 413-435.
- 36 Sahibzada, U. F., Jianfeng, C., Latif, K. F. & Sahibzada, H. F. 2020d. Fueling knowledge management processes in Chinese  
37 higher education institutes (HEIs): the neglected mediating role of knowledge worker satisfaction. *Journal of  
38 Enterprise Information Management*, Vol.33, No.6 pp. 1395-1417.
- 39 Sahibzada, U. F., Latif, K. F. & Xu, Y. 2021f. Symmetric and asymmetric modeling of knowledge management enablers  
40 to knowledge management processes and knowledge worker productivity in higher education institutes. *Journal  
41 of Enterprise Information Management*.
- 42 Sahibzada, U. F., Latif, K. F., Xu, Y. & Khalid, R. 2020e. Catalyzing Knowledge Management Processes Towards  
43 Knowledge Worker Satisfaction: Fuzzy-Set Qualitative Comparative Analysis. *Journal of Knowledge Management*,  
44 Vol.24, No.10 pp. 2373-2400.
- 45 Sahibzada, U. F., Xu, Y., Afshan, G. & Khalid, R. 2021g. Knowledge-oriented leadership towards organizational  
46 performance: symmetrical and asymmetrical approach. *Business Process Management Journal*.
- 47 Seleim, A. & Khalil, O. 2007. Knowledge management and organizational performance in the Egyptian software firms.  
48 *International Journal of Knowledge Management*, Vol.3, No.4 pp. 37-66.
- 49 Shahzad, K., Bajwa, S. U., Siddiqi, A. F. I., Ahmid, F. & Raza Sultani, A. 2016. Integrating knowledge management (KM)  
50 strategies and processes to enhance organizational creativity and performance: An empirical investigation. *Journal  
51 of Modelling in Management*, Vol.11, No.1 pp. 154-179.
- 52 Shahzadi, A., Li, S., Sahibzada, U. F., Malik, M., Khalid, R. & Afshan, G. 2021. The dynamic relationship of knowledge  
53 management processes and project success: modeling the mediating role of knowledge worker satisfaction.  
54 *Business Process Management Journal*, Vol.27, No.6 pp. 1657-1676.
- 55 Sharma, N. 2008. The Origin of the 'Data Information Knowledge Wisdom'(DIKW) Hierarchy. February.
- 56 Shih, K.-H., Chang, C.-J. & Lin, B. 2010. Assessing knowledge creation and intellectual capital in banking industry. *Journal  
57 of Intellectual Capital*, Vol.11, No.1 pp. 74-89.

- 1 Shujahat, M., Ali, B., Nawaz, F., Durst, S. & Kianto, A. 2018. Translating the impact of knowledge management into  
2 knowledge-based innovation: The neglected and mediating role of knowledge-worker satisfaction. *Human Factors*  
3 *Ergonomics in Manufacturing Service Industries*, Vol.28, No.4 pp. 200-212.
- 4 Singh, A. K. & Sharma, V. 2011. Knowledge management antecedents and its impact on employee satisfaction: a study on  
5 Indian telecommunication industries. *The Learning Organization*, Vol.18, No.2 pp. 115-130.
- 6 Smith, F. J. 1976. *The Index of Organizational Reactions (IOR)*, Washington, US, American Psychological Association.
- 7 Sveiby, K.-E. & Simons, R. 2002. Collaborative climate and effectiveness of knowledge work—an empirical study. *Journal*  
8 *of Knowledge Management*, Vol.6, No.5 pp. 420-433.
- 9 Szulanski, G. 1996. Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic*  
10 *Management Journal*, Vol.17, No.S2 pp. 27-43.
- 11 Tseng, F.-C. & Jung, F. Y. 2011. Exploring the influence of organizational ethical climate on knowledge management.  
12 *Journal of Business Ethics*, Vol.101, No.2 pp. 325-342.
- 13 Tseng, S.-M. 2010. The correlation between organizational culture and knowledge conversion on corporate performance.  
14 *Journal of Knowledge Management*, Vol.14, No.2 pp. 269-284.
- 15 Turriago-Hoyos, A., Thoene, U. & Arjoon, S. 2016. Knowledge workers and virtues in Peter Drucker’s management  
16 theory. *SAGE Open*, Vol.6, No.1 pp. 1-9.
- 17 Viñas-Bardolet, C., Torrent-Sellens, J. & Guillen-Royo, M. 2018. Knowledge workers and job satisfaction: Evidence from  
18 Europe. *Journal of the Knowledge Economy*, Vol.1, No.2 pp. 1-25.
- 19 Wang, Z., Sharma, P. N. & Cao, J. 2016a. From knowledge sharing to firm performance: A predictive model comparison.  
20 *Journal of Business Research*, Vol.69, No.10 pp. 4650-4658.
- 21 Wang, Z., Wang, N., Cao, J. & Ye, X. 2016b. The impact of intellectual capital–knowledge management strategy fit on  
22 firm performance. *Management Decision*, Vol.54, No.8 pp. 1861-1885.
- 23 Weiss, D. J., Dawis, R. V. & England, G. W. 1967. Manual for the Minnesota satisfaction questionnaire. *Minnesota Studies*  
24 *in Vocational Rehabilitation*, Vol.22, No.1 pp. 1-120.
- 25 Whisnant, B. & Khasawneh, O. 2014. The influence of leadership and trust on the sharing of tacit knowledge: Exploring  
26 a path model. *Journal of Business Studies Quarterly*, Vol.6, No.2 pp. 1-15.
- 27 Wüig, K. M. 1999. *Introducing knowledge management into the enterprise*, CRC Press Boca Raton, FL.
- 28 Wong, K. K.-K. 2013. Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing*  
29 *Bulletin*, Vol.24, No.1 pp. 1-32.
- 30 Yasir, M. & Majid, A. 2017. Impact of knowledge management enablers on knowledge sharing: is trust a missing link in  
31 SMEs of emerging economies? *World Journal of Entrepreneurship, Management Sustainable Development*, Vol.13, No.1  
32 pp. 16-33.
- 33 Yasir, M., Majid, A. & Yasir, M. 2017. Nexus of knowledge-management enablers, trust and knowledge-sharing in research  
34 universities. *Journal of Applied Research in Higher Education*, Vol.9, No.3 pp. 424-438.
- 35 Zack, M., Mckeen, J. & Singh, S. 2009. Knowledge management and organizational performance: an exploratory analysis.  
36 *Journal of Knowledge Management*, Vol.13, No.6 pp. 392-409.
- 37 Zand, D. E. 1972. Trust and managerial problem solving. *Administrative Science Quarterly*, Vol.17, No.2 pp. 229-239.
- 38 Zander, U. & Kogut, B. 1995. Knowledge and the speed of the transfer and imitation of organizational capabilities: An  
39 empirical test. *Organization Science*, Vol.6, No.1 pp. 76-92.
- 40 Zutshi, A., Creed, A., Bhattacharya, A., Bavik, A., Sohal, A. and Bavik, Y.L., 2021. Demystifying knowledge hiding in  
41 academic roles in higher education. *Journal of Business Research*, 137, pp.206-221.

42

43

## Appendix

<b>Trust</b>
There is a very high level of trust throughout this university
In this university, subordinates have a great deal of trust for seniors
If someone in this university makes a promise, others within the university will almost always trust that the person will do his or her best to keep the promise
Seniors in this company trust their subordinates to make good decisions
<b>Organizational Climate</b>
Members in my department keep close ties with each other
Members in my department consider another members' standpoint highly
Members in my department have a strong feeling of 'one team'
Members in my department cooperate well with each other
My department encourages suggesting ideas for new opportunities
My department puts much value on taking risks even if that turns out to be a failure
My department encourages finding new methods to perform a task
I can trust my leader evaluation to be good
Objectives which are given to me are reasonable
My leader does not show favoritism to any one
<b>Knowledge Management Processes</b>
<b>Creation</b>
My university workers constantly generate new ideas
My university workers adapt their work to meet customer requirements
Members of my team actively talk with each other and share knowledge
My department transforms individual knowledge to shared knowledge
Members of my department regularly share knowledge with other teams
My department regularly creates innovative processes
<b>Acquisition</b>
Knowledge is obtained from students
Knowledge is obtained from employee
Knowledge is obtained from partners / other stakeholders (Media, Education, Communication, Agencies)
<b>Storage</b>
The department I work for uses the databases, repositories and information technology applications to store the knowledge for easy access by all lecturers
The department I work for uses various written devices such as newsletter, manuals to store the knowledge which capture from the lecturers
The department I work for has several publications to display the capture knowledge
The department I work for has several mechanisms to store the knowledge for patent and copyright
<b>Sharing</b>

My university makes constantly updated information available to me
My university has systems in place that efficiently capture workers' knowledge
My university is highly committed to research and development
My university does all it can to launch new products and services
<b>Utilization</b>
There exist incentive and benefit policies for new idea suggestions in utilizing existing knowledge
Our university effectively manages different source and type of knowledge
Workflow diagrams are required and used in performing tasks
Our university utilizes available knowledge in improving service provided to its students
Our university applied available knowledge to improve its performance
<b>Knowledge Worker Satisfaction</b>
<b>Nature of Work</b>
I have chance to try my own methods of doing the job
I am satisfied with the nature of work given to me
I have freedom to use my own judgment
<b>Satisfaction with Supervisor</b>
I am satisfied with my current leader
My leader is a role model for me
Whenever need arises my leader provides me counseling
My leader works with me as a mentor
<b>Justice</b>
The rules used to evaluate my performance are fair
The procedures used to evaluate my performance are fair
The policies used to evaluate my performance are fair
I find that my values and the organization's (university) values are very similar
<b>Organizational Commitment</b>
I am proud to tell others that I am part of this organization (university)
I really care about the fate of this organization (university)
I am Satisfied with the performance appraisal system being implemented in my organization (university)
<b>Organizational Performance</b>
There has been an integral improvement in the operations, administrations, services and overall university performance.
There has been an integral improvement in the relationship between the university and its students (e.g. no of students, student retention rates, student satisfaction, etc.)
There has been an integral improvement in university effectiveness and efficiency (e.g. timing of launching new programs, quality control or management procedures, etc.)
There has been an integral improvement in resource development (e.g. student skills and personnel development, etc.)

There has been an integral improvement in preparing for the future of the university (e.g. quality/depth of planning, indicators of partnerships and alliances, anticipating and preparing for changes in the environment, etc.)

1