



Association between Behavioral Intentions and Knowledge Sharing; Are Demographics Influential*

Arenawati Sehat Binti Omar, Dr. Shahren Bin Ahmad Zaidi Addrucce.

¹Ph.D Student, Institute Borneo Studies, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia; ²Associate Professor, Institute Borneo Studies, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia.
Email: rieyn77@gmail.com

ABSTRACT

Objective: Globally, the inadequate level of knowledge sharing is considered as an increasing concern among educational institutes, impacting educational quality and job performance. Thereby, the study aims to assess the association between behavioral intentions and knowledge sharing by using the Theory of Reasoned Action (TRA). It also examines the influence of the demographic factors on knowledge sharing behavior. **Methods:** A cross-sectional design was used in this study including a total of 630 academicians from the four educational institutes (Universiti Malaysia Sarawak (UNIMAS), Universiti Teknologi MARA Sarawak, Universiti Putra Malaysia, Bintulu and Politeknik Kuching) based on a survey approach. The collected data were analyzed statistically using PLS SMART- SEM. **Results:** The results revealed a significant impact of age, gender, work experience, designation, and education on behavioral intentions and knowledge sharing. It also showed a direct association between behavioral intention and knowledge sharing. **Conclusion:** The study concludes that collaborative practices should be encouraged among academicians for creating a knowledge sharing culture.

Keywords: Academic Institutes; Behavioral Intentions; Demographics; Knowledge Sharing; Malaysia.

1 INTRODUCTION

At present, the concept of knowledge development is exponentially increasing, backed by its increased practical application [1]. Studies have recognized it as a primary agent facilitating organizational growth and competitive advantage at both national and international level [2]. The significance of knowledge development and management is well-established in both academic and corporate context [3]. Several studies have indicated the association between knowledge management and organizational performance, reflecting it as a stimulant for organizational success [2]. This is particularly significant for developing countries, where an increased inclination is observed for developing country's knowledge infrastructure. Similar to other organizations, the success of the academic institutes is also dependent on the knowledge sharing practice of its members, particularly among the academicians [4, 5].

The nature of the academic institutes makes it imperative for the academicians to impart knowledge either through research, intuition or its dissemination at both individual (learners and colleague) and collective level (society) [6]. The knowledge sharing practices in the higher institutes comprises of various factors which involve research, presentation, teaching activities as well as other methods, which eventually promote organizational success. Evidence from the literature has emphasized that these practices promotes collaborative aspects and helps the firm in establishing its competitive advantage [7]. The knowledge sharing practices in the educational institutes also improve educational quality, institutional performance, as well as its contribution to the success of the nation [8]. This is particularly true for developing countries that are aggressively investigating for improving their knowledge sharing mechanism.

However, this improvement can be thwarted when individuals are resisted to share their knowledge with others. Past studies have highlighted various reasons such as organizational factors, personal gains, lack of comfort level as well as stressors, which affect the knowledge sharing practice [9, 10]. The prevalence of this behavior creates a knowledge gap in the organization, imposing an adverse impact on its functional capabilities [11]. This also impacts the organizational reach to its desired outcomes. These reasons positioned knowledge sharing as an integral component for an institutional success. Recently, the Theory of Reasoned Action (TRA) has increased the knowledge sharing practice, though; majority of the work is carried out in environmental related subjects, and waste management as well as sustainable energy uses [12-14]. It has been used by a few researchers for the assessment of the psychological determinants, particularly for behavioral

change and knowledge sharing [15]. Moreover, majority of the work on the theory has been conducted on the Western countries and energy sector such as by Arunrat et al. [16] for the climate assessment in Thailand, and a Vietnam study of Nguyen et al. [17] for assessing the subjective norm, attitude, and perceived behavior control on climate change. Similarly, the assessment of the knowledge sharing capabilities also remain novel where previous studies have investigated it on engineers [18], accountants [8], managers [19], public firm employees [20], healthcare practitioners [21], construction team [22], and postgraduate students [23]. The research on academicians, therefore, remains limited. Sandhu et al. [24] stated that the evidence for academicians lacks due to the non-profit nature of the educational institutes. Moreover, the recent work on academic institutes developing further remain scarce, such as Akosile and Olatokun [4] have investigated the Nigerian educational staff, Tehran educational staff by Ghodsian et al. [25]; and Jordanian educational staff by Karasneh, and Al-zoubi [26] on Jordan. In contrast, this has been confined to the public sectors for Malaysian institutes [27].

Despite the increasing empirical studies on the knowledge sharing behavior of the individuals, investigation of the individual characteristics, particularly demographics remains an understudied area. This study; therefore, intends to expand the area by studying the impact of academician's demographic factors concerning their knowledge-sharing behavior. Since Malaysian higher institutes contribute significantly to the nation's competitiveness; therefore, this practice promotion is likely to expand the development avenues. Moreover, the increased number of academic institutes [28] further emphasizes studying the knowledge sharing aspects in the context of Malaysian higher education institutes.

2 LITERATURE REVIEW

2.1 Theory of Reasoned Action

To assess the knowledge sharing behavior of the academicians, this study has adopted the theory of reasoned action [29]. The rationale behind the use of this theory is threefold, such as it possesses the ability to forecast the behavior of an individual for sharing information. Studies have also revealed the potential of theory to assess the staff attitude for practicing knowledge sharing behavior. Such as Kumar, Jayswal, and Singh [30] show that the attitude of the staff towards knowledge sharing can be favorable though, they may resist sharing it. Secondly, the theory is inclusive of the subjective norm, which assists in interpreting the individual's attitude. Such as, sometimes the attitude of the individual is not inclined to knowledge sharing; however, the expectation of others may promote him to adopt this behavior. Moreover, the use of TRA theory has been limited to the knowledge sharing behavior for academicians for the Malaysian educational institutes. Therefore, the research posits that an individual's behavior for knowledge sharing is influenced by his intention and eventually by his possessed demographic factors.

2.2 Demographic Variables and Knowledge Sharing

Various studies have analyzed the impact of the demographic variable on the job-related behavior; however, outcomes of such study remain inconclusive [31]. Concerning the practice of knowledge sharing behavior with respect to the demographic variable, studies have evaluated these factors together; however, a grey area still prevails for the academic sector, particularly in Sarawak.

2.2.1 Gender and Marital Status

Gender is the prime most significant variable which impacts the knowledge sharing practice among the individual. For instance, it was found by Lee et al. [32] that gender affects the individual tendency to seek information and knowledge, which ultimately leads to a difference in knowledge sharing practices. Such as Jiang and Hu [33] found that female gender is more enthusiastic and energetic for acquiring more knowledge as compared to male. It is reasoned that the inclination of a female is based on their sensitivity to the instrumental association and the practice to surpass the conventional barriers placed in their path of acquiring knowledge. Similar to it, the study of Abukhait, Bani-Melhem, and Zeffane [34] also revealed that women are more inclined to acquire knowledge as it improves their social stance and provides those benefits which may not be gained in the absence of it. Several studies have concluded that one motive behind women promoting and sharing knowledge is because they want to be recognized as more knowledgeable, which improves their development prospects. Contrary to it, several studies have reported no impact of gender and race on the knowledge sharing behavior [35, 28]. The contrary findings of the previous studies promote assessing whether gender impacts knowledge sharing behavior or not among the academicians in Malaysia.

2.2.3 Age and Race

Another factor reported to be linked to the knowledge sharing behavior are age and race. Concerning age, the study of Gerpott et al. [36] can be considered which shows that age has no impact on the knowledge sharing practice of the individuals. The findings on the engineers revealed that there is a significant impact of age on knowledge sharing practice [37]. It is because as the employee age increased, he views himself as the guide for the newly inducted employees or the ones with less experience. In this variable, the transfer of knowledge takes place from one to another as an aged individual is more inclined to share their knowledge. However, some studies show no impact of age and race on knowledge sharing [38]. These findings promote the study to reflect upon the role of age on the knowledge sharing behavior.

2.2.4 Work Experience and Designation

The work experience and designation are other demographic factors which have been recognized to impact the behavior of an individual. It is related to the length of time an employee has been working as well as the designation which is generally based on his experience. Such as Allameh et al. [38] results revealed that when an employee has been working at a position for a certain period of time, he is likely to share his

knowledge with less experience. However, the findings of Asrar-ul-Haq and Anwar [39] revealed that middle, as well as upper management, was less involved in the knowledge sharing behavior. These outcomes revealed that middle management experience has no effect on knowledge sharing behavior. On the other hand, the results of Fullwood and Rowley [40] are found to disagree with it as it found that upper-level management is inclined to knowledge sharing behavior and often perceive them as the guider. However, middle management lacks the knowledge sharing behavior based on the fact they believed that sharing it would lead to his subordinate to a more senior level as compared to him, a term commonly known as losing face.

The empirical analysis of the study shows that the analysis of the demographic variable is not definitive. Moreover, the dearth of studies on the knowledge sharing behavior for the educational institutes, notably for Malaysia, also promotes its further analysis.

3. METHODOLOGY

3.1 Study Design

The study has employed a cross-sectional study design for investigating the impact of demographic factors on the knowledge sharing practices among Malaysian academics. A quantitative approach is adopted as it helps in the graphical representation of the results and has been adopted by previous researches on different sectors and professionals [40]. Moreover, it also helps in gathering and analyzing data in a more effective and efficient manner [41].

3.2 Study Population and Sample

The study population constitutes of 1524 academicians employed at the four Sarawak Institutes; namely, Universiti Malaysia Sarawak (UNIMAS), Universiti Teknologi MARA Sarawak, Universiti Pertanian Malaysia, Bintulu and Politeknik Kuching. The rationale for the selection of population is based on their direct association with the institutes. A total of 1524 questionnaire were distributed in the four academic institutes; however, the completed returned questionnaires were 630.

3.3 Data Collection

A questionnaire-based survey was conducted for gathering the data. The questionnaire constitutes of questions based on the study variables. Also, the items on the questionnaire were divided into two parts; the first part collected demographic details of the participants while the second part gathered information about their knowledge sharing behavior. Moreover, the items were based on 7-point Likert Scale (from 1 very strongly agree to 7 very strongly disagree). The validity and reliability of the questionnaire were assured by computing Cronbach Alpha and by asking three social science experts to evaluate its content. The questionnaire was revised based on the feedback received. The questionnaire was used as the research instrument based on its established efficacy for collecting data in an effective and efficient manner. Further, the use of this tool reduces the biases prospects in the research and improves generalizability prospects. For completing the questionnaire, the duration of two weeks was determined. The questionnaire sustained the confidentiality and anonymity of the responses. Table 1 presents the Cronbach alpha value, i.e., 0.966, which indicates the increased reliability of the questionnaire.

TABLE 1
CRONBACH ALPHA

Number of Items	Cronbach Alpha
12	0.966

3.4 Ethical Consideration

Prior to collecting the data, the researcher obtained research approval from the Institutional Review Board. Following it, the researcher dropped an email to the four academic institutes which contained the information about the study scope, its objective, and the significance. The study progressed when the researcher received a positive response from the institutes. Further, it obtained the list of the academicians in the university and dropped an email to all of them mentioning the purpose of the research and their right to withdraw at any time. The participant's acknowledgment of the email and provision of the written consent demonstrating their voluntary participation progressed the study.

3.5 Data Analysis

The analysis of the collected data was performed using structural equation modeling (SEM) by means of partial least squares path modeling (SmartPLS2.0 M3). Moreover, the significant value was determined at $p < 0.05$.

4. RESULTS

Table 2 presents the descriptive statistics of the participants. The mean and S.D. for the gender is found to be 1.56 ± 0.4937 and that for age is 3.32 ± 1.378 . The descriptive statistics for education and working experience was found to be 2.12 ± 0.654 and 1.83 ± 1.116 , respectively. The study also obtained the mean and S.D for race, marital status and designation which were found to be 2.05 ± 1.278 , 1.80 ± 0.463 and 2.64 ± 0.961 , respectively.

TABLE 2
DESCRIPTIVE STATISTICS (DEMOGRAPHICS)

Variables	Mean	S. D
Gender	1.56	.497
Age	3.32	1.378
Education	2.12	.654
Working Experience	1.83	1.116
Race	2.05	1.278
Marital Status	1.80	.463
Designation	2.64	.961

The demographic details of the participants are shown in Table 3. It demonstrates that the majority of the participants were female, i.e., 351, while the number of males was 279. From the sample of 630 academicians, majority were Malay i.e., 321, followed by Iban (105). Majority of the participants were aged between 41 to 45 years (175) while almost equal participants were found in 31 to 35 years age group (121) and 36 years to 40 years (128). The marital status revealed that more than half of the academicians were married (470) as compared to single academicians (143). The education analysis of the participants showed that majority of the academicians were masters (352) while a number of graduates were 102, whereas, participants who have completed their doctoral are 176. Designation reveals that 267 participants were lecturer, 215 were senior lecturer while 66 were associate professor. The working experience of the participants showed that 221 of participants have 1 to 5 years of experience (177) followed by academicians with 16-20 years (156).

TABLE 3
Respondents Demographics

Variables	Frequency (n)	Percentage (%)
Gender		
Male	279	44.3
Female	351	55.7
Race		
Malay	321	51.0
Iban	105	16.7
Bidayuh	86	13.7
Chinese	88	14.0
Others	30	4.8
Age		
30 years and below	73	11.6
31-35 years	121	19.2
36-40 years	128	20.3
41-45 years	175	27.8
46-50 years	105	16.7
51 years and above	28	4.4
Marital Status		
Single	143	22.7
Married	470	74.6
Others	17	2.7
Education		
Bachelor's Degree	102	16.2
Master's Degree	352	55.9
Doctoral Degree	176	27.9
Designation		

Experience	Tutor	47	7.5
	Lecturer	267	42.4
	Senior Lecturer	215	34.1
	Associate Professor	66	10.5
	Professor	35	5.6
	1-5 years	138	21.9
	6-10 years	221	35.1
	16-20 years	156	24.8
	16-20 years	94	14.9

Structural Equation Analysis

The results of using SEM analysis are revealed in Table 4 which demonstrates the paths coefficients of variables (Table 4). The analysis shows the values are observed to be higher than 0.5 which highlight the substantial impact on the knowledge sharing behavior among the academicians. Table 4 demonstrates that there is a significant impact of demographic on intention of the academicians.

TABLE 4
Path Coefficients

	Demographic	Intention	Knowledge-Sharing
Demographic		0.087	0.000
Intention			0.000
Knowledge-Sharing			

The latent variable correlation is presented in Table 5 between the dependent and independent variable using PLS software. The outcomes are revealed in the correlation coefficient, which highlight that coefficient which is below the value of 0.5 is weak whereas the correlation that exceeds this figure possesses a strong correlation.

TABLE 5
Latent Variable Correlations

	Demographic	Intention	Knowledge-Sharing
Demographic	1.000	0.136	0.419
Intention	0.136	1.000	0.319
Knowledge-Sharing	0.419	0.319	1.000

TABLE 6
Discriminant Validity

	Demographic	Intention	Knowledge-Sharing
Demographic	0.675		
Intention	0.136	0.786	
Knowledge-Sharing	0.419	0.319	0.834

TABLE 7
HTMT Criterion

	Demographic	Intention	Knowledge-Sharing
Demographic			
Intention	0.165		
Knowledge-Sharing	0.478	0.342	

TABLE 7
 R-Square Statistics

	R Square	R Square Adjusted
Intention	0.061	0.058
Knowledge-Sharing	1.000	1.000

The path analysis using the structural model coefficients show that there is a direct impact of independent and mediating variable on the dependent variable i.e., knowledge sharing activity. From the analysis, it is evident that there is a significant impact of demographics on the intention of the academicians to the sharing activities of the employees. In addition, it also reveals a direct impact of intention on the knowledge of the academicians in the Sarawak institutes.

TABLE 8
 Path Analysis (Structural Model Coefficients)

	Original (O)	Sample Mean (M)	Sample Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Demographic - > Intention	0.087	0.102	0.042	2.077	0.038
Intention -> Knowledge-Sharing	0.000	0.000	0.000		

5. DISCUSSION

The study investigated how demographics of the individual impact his knowledge sharing behavior. The study analyzed these factors for the higher institute's population in Sarawak, given the increasing educational development in the sector. By conducting a questionnaire-based survey and using PLS SEM for analysis, the study showed that demographics have a substantial impact on the tendency of the individual to share his knowledge. A strong and positive correlation was observed for age, gender, education, while negative for the working experience. The findings of the study are found to be consistent with several studies which have undergone similar research on different regions [14, 23, 31- 34].

Concerning the gender of the participants, the impact of gender was found to be significant. This is consistent with the findings of Killingsworth, Xue and Liu [42] on a virtual team. However, it is found contrary to the findings of Yang et al. [43], which showed that as respondents gain the experience, they become more prone to knowledge sharing. The same practice is observed when the age of the academicians's progresses. It further stated that the participants that have age above 40 are less likely to engage in knowledge sharing behavior.

It suggests that the culture of knowledge sharing should be promoted in order to increase interconnectivity as well as job performance. It also shows that doing this will also improve the institutional contribution in the research domain. Likewise, this knowledge sharing behaviors have a positive impact on the teaching quality as teachers are able to share examples from different perspective and disciplines. The limitation of this study includes its restriction to a certain region and discipline, which limits the generalizability of the study as the socio-economic conditions of the country differ. Moreover, variables studied in this study can be expanded for analyzing more comprehensive results such as attitude of the peers and more. Likewise, a longitudinal study design can also be adapted for analyzing the reaction of the academicians who are required to adopt sustainable knowledge sharing practices. This would also assist in understanding how the attitude of the participant impacts the behavioral intention of an individual for executing knowledge sharing practices. Additionally, a diverse population across different industries can be analyzed for concluding more comprehensive results.

Based on the responses of the participants, the study provides various suggestions. For instance, it implies that the management of the institute must realize its role and contribute to the promotion of knowledge sharing behavior. Such as, in order to ensure knowledge sharing practice, new interactive activities must be instigated while different tasks must be assigned where collaboration with the others occurs. This practice improves interaction among the staff, promoting knowledge sharing behavior. Similarly, a new policy or practice can be integrated where each academicians would be asked to deliver a workshop based on his expertise. This helps others recognize the potential knowledge source one has and also highlights the individual how could be contacted when a relevant problem related to his discipline occurs. Similarly, practices for promoting engagement in the class can also be shared. To sustain these practices, different strategies can be introduced, such as annual incentive or employee recognition, which derives individual to

improve their contribution to the organizational performance. Similarly, the institute can also study the grey areas which need further attention to optimize its performance and growth.

6. CONCLUSION

At this juncture, it can be concluded that demographic variables substantially impact the behavioral intention and knowledge sharing among the Sarawak academicians. Using the Theory of Reasoned Action (TRA), the study concluded that demographical characteristics of the participants significantly impact the behavioral intention to share knowledge. The findings of the study contribute the understanding regarding demographical predictors of the behavioral intention as well as knowledge sharing for the academicians, which are helpful for the academic researches as well as institutional administrators. The adopted theory of reasoned action can be assimilated with other variables for discovering new variables. Policymakers can use knowledge sharing for improving the culture of the institute and creating a collaborative environment. This practice will assist in improving the performance of the employee as well as their involvement in the organizational practices.

ACKNOWLEDGMENT

The author is very thankful to all the associated personnel in any reference that contributed in/for the purpose of this research. Further, the research holds no conflict of interest and is self-funded.

REFERENCES

- I. J. de Castro, M. S. Nagano, and S. X. Ribeiro, "Elements that influence knowledge sharing in the university-industry-government collaboration," *Revista de Gestão*, vol. 26, no. 1, pp. 61–72, Jan. 2019.
- A. S. S. Omar, "Trust on Knowledge-Sharing Behaviour Among Academicians in Public Universities: A Review," *Journal of IT in Asia*, vol. 8, no. 1, pp. 1–6, Nov. 2018.
- M. J. Donate and J. D. Sánchez de Pablo, "The role of knowledge-oriented leadership in knowledge management practices and innovation," *Journal of Business Research*, vol. 68, no. 2, pp. 360–370, Feb. 2015.
- A. Akosile and W. Olatokun, "Factors influencing knowledge sharing among academics in Bowen University, Nigeria," *Journal of Librarianship and Information Science*, p. 096100061882092, Jan. 2019. <https://doi.org/10.1177/0961000618820926>
- D. N. Karim and A. H. A. Majid, "Barriers to Knowledge Sharing Among Academics in Tertiary Institutions," *Proceedings of the First International Conference on Materials Engineering and Management - Management Section (ICMEMM 2018)*, 2019.
- I. M. Eid and I. M. Al-Jabri, "Social networking, knowledge sharing, and student learning: The case of university students," *Computers & Education*, vol. 99, pp. 14–27, Aug. 2016.
- S. S. A. Naser, M. J. Al Shobaki, and Y. M. A. Amuna, "Knowledge Management Maturity in Universities and its Impact on Performance Excellence" *Comparative study*". 2016
- P. Trivellas, Z. Akrivouli, E. Tsifora, and P. Tsoutsas, "The Impact of Knowledge Sharing Culture on Job Satisfaction in Accounting Firms. The Mediating Effect of General Competencies," *Procedia Economics and Finance*, vol. 19, pp. 238–247, 2015.
- Y. Hwang, H. Lin, and D. Shin, "Knowledge system commitment and knowledge sharing intention: The role of personal information management motivation," *International Journal of Information Management*, vol. 39, pp. 220–227, Apr. 2018.
- K. Blanchard, "Leading at a higher level: Blanchard on leadership and creating high performing organizations," *Choice Reviews Online*, vol. 44, no. 11, pp. 44–6318–44–6318, Jul. 2007.
- X. Zheng, L. Li, F. Zhang, and M. Zhu, "The Roles of Power Distance Orientation and Perceived Insider Status in the Subordinates' Moqi with Supervisors and Sustainable Knowledge-Sharing," *Sustainability*, vol. 11, no. 5, p. 1421, Mar. 2019.
- D. Mishra, I. Akman, and A. Mishra, "Theory of Reasoned Action application for Green Information Technology acceptance," *Computers in Human Behavior*, vol. 36, pp. 29–40, Jul. 2014.
- H. Martins Gonçalves and A. Viegas, "Explaining consumer use of renewable energy: determinants and gender and age moderator effects," *Journal of Global Scholars of Marketing Science*, vol. 25, no. 3, pp. 198–215, Jun. 2015.
- R. Nadlifatin, S.-C. Lin, Y. Rachmaniati, S. Persada, and M. Razif, "A Pro-Environmental Reasoned Action Model for Measuring Citizens' Intentions regarding Ecolabel Product Usage," *Sustainability*, vol. 8, no. 11, p. 1165, Nov. 2016.
- P. Akhavan, S. M. Hosseini, M. Abbasi, and M. Manteghi, "Knowledge-sharing determinants, behaviors, and innovative work behaviors," *Aslib Journal of Information Management*, vol. 67, no. 5, pp. 562–591, Sep. 2015. <https://doi.org/10.1108/ajim-02-2015-0018>
- N. Arunrat, C. Wang, N. Pumijumong, S. Sereenonchai, and W. Cai, "Farmers' intention and decision to adapt to climate change: A case study in the Yom and Nan basins, Phichit province of Thailand," *Journal of cleaner production*, Vol. 143, 672–685. 2017. <https://doi.org/10.1016/j.jclepro.2016.12.058>
- Q. Nguyen, L. Hens, C. MacAlister, L. Johnson, B. Lebel, S. Bach Tan, H. Manh Nguyen, T. Nguyen, and L. Lebel, "Theory of Reasoned Action as a Framework for Communicating Climate Risk: A Case Study of Schoolchildren in the Mekong Delta in Vietnam," *Sustainability*, vol. 10, no. 6, p. 2019, Jun. 2018.
- U. Alegre, J. C. Augusto, and T. Clark, "Engineering context-aware systems and applications: A survey," *Journal of Systems and Software*, vol. 117, pp. 55–83, Jul. 2016. <https://doi.org/10.1016/j.jss.2016.02.010>
- L. Razmerita, K. Kirchner, and P. Nielsen, "What factors influence knowledge sharing in organizations? A social dilemma perspective of social media communication," *Journal of Knowledge Management*, vol. 20, no. 6, pp. 1225–1246, Oct. 2016.
- B. Afsar, Y. F. Badir, B. B. Saeed, and S. Hafeez, "Transformational and transactional leadership and employee's entrepreneurial behavior in knowledge-intensive industries," *The International Journal of Human Resource Management*, vol. 28, no. 2, pp. 307–332, Oct. 2016. <https://doi.org/10.1080/09585192.2016.1244893>
- B. F. Chauhan, M. Jeyaraman, A. S. Mann, J. Lys, B. Skidmore, K. M. Sibley, A. Abou-Setta, and R. Zarychanski, "Behavior change interventions and policies influencing primary healthcare professionals' practice—an overview of reviews," *Implementation Science*, vol. 12, no. 1, Jan. 2017.

- M. Arif, M. Al Zubi, A. D. Gupta, C. Egbu, R. O. Walton, and R. Islam, "Knowledge sharing maturity model for Jordanian construction sector," *Engineering, Construction and Architectural Management*, vol. 24, no. 1, pp. 170–188, Jan. 2017. <https://doi.org/10.1108/ecam-09-2015-0144>
- C. V. Anunobi and O. K. Udem, "Information Literacy Competencies of Library and Information Science Postgraduate Students in South East Nigeria Universities: A Focus on the Knowledge and Skill Level," Dec. 2018. <https://doi.org/10.31229/osf.io/zgkqp>
- M. Singh Sandhu, K. Kishore Jain, and I. Umi Kalthom bte Ahmad, "Knowledge sharing among public sector employees: evidence from Malaysia," *International Journal of Public Sector Management*, vol. 24, no. 3, pp. 206–226, Apr. 2011.
- N. Ghodsian, H. Khanifar, H. Yazdani, K. and Dorrani, "The effective contributing factors in knowledge sharing and knowledge transfer among academic staff at Tehran University of medical sciences: a qualitative study," *Journal of Medical Education*, Vol. 16 no. 2. 2017
- A. A.-F. Karasneh and Al-zoubi Manal, "Factors affecting knowledge sharing in special education-A Jordanian study," *Knowledge and Process Management*, vol. 26, no. 1, pp. 41–50, Sep. 2018.
- M. A. Fauzi, C. N. Ling Tan, R. Thurasamy, and A. O. Ojo, "Evaluating academics' knowledge sharing intentions in Malaysian public universities," *Malaysian Journal of Library & Information Science*, vol. 24, no. 1, pp. 123–143, Apr. 2019.
- MOHE, "Ministry of Higher Education (MOHE)," Report, available at: www.mohe.gov.my/web_statistik/Perangkaan%20Pendidikan%20Tinggi%20Negara%202013.pdf. 2013
- T. Pei-Lee, C. Y. Chen, W. C. Chin, and Y. Y. Siew. "Do the Big Five Personality Factors affect knowledge sharing behaviour? A study of Malaysian universities," *Malaysian Journal of Library & Information Science*, Vol 16, no. 1, pp. 47-62. 2017
- P. V. S. Kumar and P. Padmaja, "Knowledge, Attitude, Practices of Biomedical Waste Management among Nursing Students and Staff in a Tertiary Care Hospital," *Annals of International medical and Dental Research*, vol. 3, no. 4, Jul. 2017.
- J. Kim, C. Lee, and T. Elias, "Factors affecting information sharing in social networking sites amongst university students," *Online Information Review*, vol. 39, no. 3, pp. 290–309, Jun. 2015.
- D. S. Lee, K. C. Lee, Y. W. Seo, and D. Y. Choi, "An analysis of shared leadership, diversity, and team creativity in an e-learning environment," *Computers in Human Behavior*, vol. 42, pp. 47–56, Jan. 2015.
- Z. Jiang and X. Hu, "Knowledge Sharing and Life Satisfaction: The Roles of Colleague Relationships and Gender," *Social Indicators Research*, vol. 126, no. 1, pp. 379–394, Feb. 2015.
- R. M. Abukhait, S. Bani-Melhem, And R. Zeffane, "Empowerment, Knowledge Sharing And Innovative Behaviours: Exploring Gender Differences," *International Journal of Innovation Management*, vol. 23, no. 01, p. 1950006, Jan. 2019.
- Z. Yan, T. Wang, Y. Chen, and H. Zhang, "Knowledge sharing in online health communities: A social exchange theory perspective," *Information & Management*, vol. 53, no. 5, pp. 643–653, Jul. 2016.
- F. H. Gerpott, R. Wenzel, N. Lehmann-Willenbrock, and S. C. Voelpel, "Age-Diverse Training Groups: How Knowledge Sharing & Psychological Safety Promote Learning Outcomes," *Academy of Management Proceedings*, vol. 2015, no. 1, p. 11691, Jan. 2015.
- Y. Dong, K. M. Bartol, Z.-X. Zhang, and C. Li, "Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership," *Journal of Organizational Behavior*, vol. 38, no. 3, pp. 439–458, Sep. 2016.
- S. M. Allameh, A. Abedini, J. Khazaei Pool, and A. Kazemi, "An Analysis of Factors Affecting Staffs Knowledge Sharing In the Central Library of the University of Isfahan Using the Extension of Theory of Reasoned Action," *International Journal of Human Resource Studies*, vol. 2, no. 1, p. 158, Mar. 2012. <https://doi.org/10.5296/ijhrs.v2i1.1310>
- M. Asrar-ul-Haq and S. Anwar, "A systematic review of knowledge management and knowledge sharing: Trends, issues, and challenges," *Cogent Business & Management*, vol. 3, no. 1, Jan. 2016.
- R. Fullwood and J. Rowley, "An investigation of factors affecting knowledge sharing amongst UK academics," *Journal of Knowledge Management*, pp. 00–00, Jul. 2017.
- J. W. Creswell and J. D. Creswell, "Research design: Qualitative, quantitative, and mixed methods approaches." Sage publications.
- B. Killingsworth, Y. Xue, and Y. Liu, "Factors influencing knowledge sharing among global virtual teams," *Team Performance Management: An International Journal*, vol. 22, no. 5/6, pp. 284–300, Aug. 2016.
- H.-L. Yang and C.-Y. Lai, "Understanding knowledge-sharing behaviour in Wikipedia," *Behaviour & Information Technology*, vol. 30, no. 1, pp. 131–142, Jan. 2011.