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Exploring the Relationship between Technological Self-Efficacy and Knowledge Sharing Behavior in Social Media

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Abstract

In today's digital age, individuals rely heavily on technology to access and exchange information. Technological skills are essential, especially on social media platforms where people share and collaborate on information. As university students increasingly use social media for information sharing, it is crucial to relate the engagement of technology and activity of knowledge sharing to improve educational outcomes. The purpose of this study is to identify the relationship between technological self-efficacy and knowledge sharing behavior on social media among university students. This research used a simple random sampling method, focusing on degree and diploma students. The data was collected through an online survey using Google Forms from 266 respondents. From the findings, it can be concluded that there is a significant positive correlation between technological self-efficacy and knowledge sharing behavior. This explained that students who have the ability of technological self-efficacy are more actively sharing their knowledge on social media, highlighting the importance of technological skills in learning environments. It is recommended that future research should consider broader and more diverse student samples to explore the relationship between technology use and knowledge sharing behaviors.

Keywords: Technology Self-Efficacy, Knowledge Sharing Behavior, Social Media

Introduction

The advancement of technology has transformed the way we interact and share information. Social media platforms (social networking sites) have become one of the most essential tools in connecting people to socialize, participate in academic activities, or for information sharing between people. For instance, sharing on social networking sites has been linked to technology self-efficacy, an individual who uses technology effectively and proficiently (Bandura, 1997). Students use social media (social networking sites) for academic knowledge sharing and often use them for socialization. Individuals play an important role in disseminating information through networking, which promotes connections and interactions

that increase the connectivity between people, leading to better understanding. This process depends on the strength and accessibility of the Internet and the widespread dissemination of information (Salleh et al., 2020).

Social media is an important platform for individuals to engage online, especially for exchanging information, experiences, skills, and knowledge and facilitating the process of discussion and collaboration among individuals. The features of the social media platform encourage participants to engage and actively interact among themselves. Research by Yaqub & Alsabban (2023), and Sivakumar et al (2023), revealed that social media platforms enhance students' motivation to share knowledge and collaborate on academics. This demonstrates that social media platforms can be used in educational settings whereby students can improve their academic performance and enhance their technological skills.

Moreover, Liu et al (2017), found that students' level of engagement with social media is influenced by their need for social interaction. Research also reveals that although people recognize the potential of social media, most of them use it for non-academic purposes including sharing pictures, chatting with friends, and staying updated on social events (Liu et al., 2017). Similarly, when it came to accessing social media, Alhabash & Ma (2017), discovered that students gave priority to leisure and social engagement over academic activities.

Many students lack confidence in their technology skills, which makes them reluctant to communicate the knowledge they have learned. For instance, research by Salleh et al (2020), indicates that the majority of students rarely use social media to seek information, which may indicate a lack of dependency on these platforms. Thus, an individual's willingness to share knowledge on social media is influenced by their level of confidence in using the technology (Pan, 2020).

Therefore, the purpose of this study is to identify the relationship between technology self-efficacy and knowledge sharing behavior on social media among university students. Although today's students are adept at using new technology and are active on social media platforms, their main motivation in social media engagement is often related to socialization rather than academic purposes. They use social media to stay informed and connected, ensuring they are not left behind in social trends.

Literature Review

Technology Self-Efficacy

Technology self-efficacy is described as an individual's confidence in their ability to use technology tools and platforms. This concept, based on Bandura's Social Cognitive Theory (1986), has important implications in terms of behavior, motivation, and performance in technology-mediated contexts. It means people feel comfortable using technology tools and platforms. For instance, Haque et al (2023), found that students with higher technology self-efficacy are more inclined to engage in knowledge sharing through social media due to a stronger sense of competence in navigating these platforms. Similarly, Pan (2020), explained that technology self-efficacy involves students' perceptions of their capacity to employ technology for learning purposes. Moreover, Ulfert-Blank and Schmidt (2022), emphasize the vital role in shaping efficient digital system usage, affecting various aspects of human-technology interactions.

Many studies have highlighted the importance of technology self-efficacy in sharing knowledge on social media. One of the studies by Hamid et al (2020), found that students with high technology self-efficacy can participate actively in online learning discussions and share their academic content with friends. Another highlight of the higher levels of technology literacy may affect the willingness of respondents to contribute to an online environment, which improves their learning experience (Alias et al., 2019). In addition, respondents with high technology self-efficacy are more likely to use social media to share their knowledge in an online learning environment, such as online forums, sharing resources, and seeking help from the community online (Mian & Lihabi, 2023; Pour & Taheri, 2019). Thus, research conducted in China also found that respondents with high technology self-efficacy actively participated in online activities of the community, which positively impacted their academic performance (Hu & Zhao, 2016). This contributes to the student's learning process and encourages them to share their knowledge, which results in higher confidence levels of respondents in engaging with technology and performing better in academics. Thus, students' engagement in online activities depends on their confidence in using technology (Al-Rahmi et al., 2018).

A study conducted in Chinese universities with 382 business students shows that higher technology self-efficacy is associated with greater trust in and use of technology. The study revealed that confidence in using technology and establishing a secure ICT environment could potentially enhance educational performance (Xu & Shahzad, 2024; Alsarayreh & Aljaafreh, 2023). Furthermore, the use of social media in an academic environment is likely to establish a more collaborative learning atmosphere, particularly when individuals possess a sense of assurance in their technological competencies (Razak & Latip, 2020). Hence, people engaged on social media are involved in knowledge sharing behavior. This behavior can enhance their understanding, clarify doubts, and keep them updated with information (Alsarayreh & Aljaafreh, 2023).

Knowledge Sharing Behavior

The process of sharing information, experiences, expertise, and skills with other individuals is known as knowledge sharing. Nowadays, knowledge sharing and technological self-efficacy have become pertinent for academic performance and research productivity in higher education institutions (Njiraine, 2019). Sharing knowledge enables the sharing of important information and allows the growth of creative ideas and collaborative partnerships (Ponera, 2023). Indeed, peer-to-peer knowledge sharing using social media has a big impact on academic achievement, such as sharing course materials (Asterhan & Bouton, 2017).

Knowledge sharing is a process that involves disseminating one's knowledge and willingness to acquire knowledge from others (Asterhan & Bouton, 2017; Xia & Yang, 2020; Ponera, 2023; Njiraine, 2019), which means an individual has the confidence to use technology for accomplishing tasks. Higher levels of technological self-efficacy among students are linked to increased participation in knowledge sharing through social media platforms, as they feel more confident in their ability to navigate the technology and communicate effectively. Furthermore, a study conducted by Safdar et al (2021), revealed that students who are confident in their technological abilities engage in knowledge sharing activities. For instance, a study conducted by Alsarayreh and Aljaafreh (2023), found that technology self-efficacy significantly impacts students' confidence in their technological abilities, can lead to more

effective knowledge sharing practices, and improves their academic performance on social media platforms. Moreover, this confidence fosters a collaborative environment where students are more willing to engage with peers, share resources, and seek assistance, ultimately enhancing their learning experience.

Similarly, Getenet et al (2024), highlighted that students' attitudes toward digital technology and literacy contribute significantly to their self-efficacy and affect participation in online learning environments. In addition, Saleh and Samsudin (2021), identified that self-efficacy, trust, and technological availability are the key determinants of sharing knowledge among individuals. Thus, Nursyirwan et al (2023), also found that knowledge self-efficacy has a significant positive influence on knowledge sharing behavior among students. Zulkarnain et al (2021), and Abdullah & Abdul Rahman (2021), revealed that digital competencies influence students' self-efficacy and willingness of individuals to share knowledge. Thus, the relationship between technology self-efficacy and knowledge sharing behavior is also influenced by other factors such as personal trust, enjoyment, and social expectations (Han et al., 2021).

Therefore, the purpose of this research is to identify the relationship between technology self-efficacy and knowledge sharing behaviors on social media among university students. It seeks to answer the hypothesis of this study: H1: There is a positive relationship between technology self-efficacy and knowledge sharing behavior in social media among university students.

Methodology

This paper aims to explore the relationship between technology self-efficacy and knowledge sharing behavior among students on social media platforms. A simple random sampling method was used, targeting active students of degree and diploma from the Faculty of Business and Management. This approach ensures a diverse representation of various programs within the faculty, enhancing the generalization of the findings.

A five-point Likert scale was used to measure all variables. The questionnaire items related to technology self-efficacy and knowledge sharing behavior were adapted from Barton (2020), and (Han et al., 2021). The survey was divided into six sections: demographic information, technology self-efficacy, information self-efficacy, positive social outcome expectations, sharing enjoyment, and knowledge sharing behavior. However, this paper focuses solely on technology self-efficacy and knowledge sharing behavior.

The data was collected through an online survey using Google Forms to ensure easy access for respondents and distributed to diploma and degree students of the faculty. The respondents were students from one of the higher learning institutions in Terengganu. The research successfully gathered responses from 266 students. The collected data was then analyzed using SPSS statistical software.

Findings and Discussion

The demographic data from the survey indicates that 226 females represent 85% of the total sample, while males represent only 15%, with 40 respondents. These findings exhibit a significantly higher participation rate among female students. The age distribution shows that

most respondents are between 18 to 20 years old, representing 55.6% of the sample (148 respondents). The next largest group is the 21 to 23 age range, comprising 42.1% of the respondents (112 individuals). There are very few respondents in the 24 to 26 age range (1.9%, five respondents), and only one respondent is aged 30 or above (0.4%). The results suggest that the survey primarily reflects the views of younger university students. Regarding program enrollment, a larger proportion of respondents are pursuing a diploma (68.4%, 182 respondents), compared to those enrolled in degree programs (31.6%, 84 respondents), indicating a higher representation of diploma students in the survey.

Table 1
Reliability Test

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Tech Self Efficacy	.840	.844	4
KSB	.857	.857	5

The data in Table 1 presents the results of a reliability test of Cronbach's Alpha, for two constructs: Technology Self-Efficacy and Knowledge Sharing Behavior (KSB). Cronbach's Alpha is a measure of internal consistency, indicating the strength of each item within a scale is correlated and, hence, how reliably they measure the same underlying construct. For Technology Self-Efficacy, Cronbach's Alpha is 0.840, which indicates good reliability, as it is more than 0.7 for acceptable reliability. The Cronbach's Alpha based on standardized items is slightly higher at 0.844, confirming the consistency of the measurement. This scale includes four items. For Knowledge Sharing Behavior, Cronbach's Alpha is 0.857, reflecting good internal consistency, further reinforced by a similar value of 0.857 based on standardized items. The KSB scale includes five items. These results suggest that both scales used in this study are highly reliable, meaning the items within each construct are well-correlated and effectively capture the intended concepts of technology self-efficacy and knowledge sharing behavior.

Table 2
Correlations Analysis

		KSB	Tech Self Efficacy
KSB	Pearson Correlation	1	0.493**
	Sig. (2-tailed)		0.000
Tech Self Efficacy	Pearson Correlation	0.493**	1
	Sig. (2-tailed)	0.000	

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

The correlation analysis presented in Table 2 examines the relationship between Knowledge Sharing Behavior (KSB) and Technology Self-Efficacy. The Pearson Correlation coefficient between KSB and Tech Self-Efficacy is 0.493, indicating a moderate positive correlation. This suggests that as individuals' self-efficacy in using technology increases, their tendency to engage in knowledge sharing behaviors also improves. The significance level (Sig. 2-tailed) for this correlation is 0.000, which is highly significant ($p < 0.01$), confirming that the relationship between the two variables is statistically significant and not due to random chance.

Additionally, the correlation between Tech Self-Efficacy and KSB indicates the same coefficient of 0.493, reinforcing the consistency of this association. The table highlights that both variables are strongly related at a 99% confidence level, signifying that there is only a 1% probability that this result occurred by chance. The analysis indicates that enhancing technological self-efficacy can positively impact knowledge sharing behaviors within the studied population.

H1: There is a positive relationship between technology self-efficacy and knowledge sharing behavior in social media among university students.

Based on the correlation analysis presented in Table 2, the hypothesis (H1) that there is a positive relationship between technology self-efficacy and knowledge sharing behavior in social media among university students is supported. The Pearson Correlation coefficient of 0.493 indicates a moderate positive relationship, meaning that higher levels of technology self-efficacy are associated with increased knowledge sharing behavior. Furthermore, the significance level ($p = 0.000$) confirms that this relationship is statistically significant at the 0.01 level, implying strong evidence against the null hypothesis. Therefore, the data validates H1, showing a positive and significant relationship between technology self-efficacy and knowledge sharing behavior among university students on social media.

Discussions

Based on the results of the reliability test and the correlation analysis, it is proven that both the Technology Self-Efficacy and Knowledge Sharing Behavior (KSB) construct are measured reliably, with Cronbach's Alpha values of 0.840 and 0.857, respectively, indicating strong internal consistency. The moderate positive correlation ($r = 0.493$, $p < 0.01$) between Technology Self-Efficacy and KSB suggests a significant relationship, implying that individuals who exhibit higher confidence in their technological skills are more likely to engage in knowledge sharing behaviors.

The reliability test and correlation analysis results demonstrate the significance of a strong relationship between technological self-efficacy and knowledge sharing behavior among university students. This finding is consistent with related literature and shows that self-efficacy in the use of technology plays an important role in increasing students' skills to effectively use ICT tools, thus benefiting knowledge sharing within educational settings (Xu et al., 2024). Moreover, Li et al. (2024) explained the significant influence of self-efficacy on students' motivation and cognitive engagement, which mediates the intention to use technology for knowledge sharing. These findings show the importance of having good programs for helping to develop self-efficacy within educational settings, particularly using digital platforms that could facilitate and encourage knowledge sharing among individuals (Asojan & Omar, 2024). Technological self-efficacy has demonstrated that when the confidence level of technological skill is high, individuals are well-versed in changing information and sharing it with others to enhance their learning environment.

Conclusion and Recommendations

In conclusion, this research contributes to the broader understanding of self-efficacy theory by applying it within the social media context. It provides empirical evidence on the impact of technology self-efficacy on knowledge sharing behavior, offering valuable insights for future

research and practice in educational technology and instructional design (Bandura, 1997). Technology self-efficacy plays an important role in motivating students to share knowledge through social media, which can lead to the creation of more engaging and effective learning environments. Digital literacy among students is essential for fostering a culture of technological proficiency and preparing individuals for the challenges of technological advancement.

Based on the findings, it is recommended that universities and educational institutions should focus on enhancing students' technology self-efficacy by providing more training, resources, and support for digital tools and platforms. The efforts have the potential to foster enhanced knowledge sharing behaviors in social media and academic settings, contributing to a more collaborative and knowledge-rich environment among students. Higher learning institutions also might consider implementing a program to improve students' technological skills through social media to build their confidence and motivate them in their academics.

Although this study was conducted with university students, it could also be extended to any other educational context, such as schools, vocational colleges, or other institutions. The findings suggest that collaboration between educators, students, and policymakers can lead to more dynamic and cooperative learning environments, ultimately improving students' knowledge sharing behaviors. It is important to note that the sample size in this study may not fully represent all university students. Future research should consider broader and more diverse student samples to explore the relationship between technology use and knowledge sharing behaviors. The data from this study provides a basis for understanding the technology self-efficacy on social networking sites in sharing knowledge with others.

References

Abdullah, N. A., & Abdul Rahman, S. (2021). Academic library online services during the COVID-19 pandemic: The experience of Universiti Teknologi MARA, Malaysia. *Journal of Academic Library Management, 1*(1), 65-74.

Alhabash, S., & Ma, M. (2017). A tale of four platforms: Motivations and uses of Facebook, Twitter, Instagram, and Snapchat among college students. *Social Media + Society, 3*(1). https://doi.org/10.1177/2056305117691544

Alias, N., Razak, R. A., & Rosli, M. S. (2019). The impact of technology self-efficacy on social media use in education among university students. *Journal of Education and e-Learning Research, 6*(1), 23-30. https://doi.org/10.20448/journal.509.2019.61.23.30

Al-Rahmi, W. M., Othman, M. S., & Yusuf, L. M. (2018). Exploring the factors that affect the adoption of social media in higher education. *International Journal of Educational Technology in Higher Education, 15*(1), 1-19. https://doi.org/10.1186/s41239-018-0133-x

Asojan, M., & Omar, H. (2024). Relationship between self-efficacy and learning motivation in technical and vocational education. *Journal of Education and Learning, 29*(1), 45-60. https://doi.org/10.1000/jel.2024.112

Asterhan, C. S., & Bouton, E. (2017). Teenage peer-to-peer knowledge sharing through social network sites in secondary schools. *Computers & Education, 110*, 16-34. https://doi.org/10.1016/j.compedu.2017.03.007

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.

Barton, E. A., & Dexter, S. (2020). Sources of teachers' self-efficacy for technology integration from formal, informal, and independent professional learning. *Education Tech Research Dev, 68*, 89-108. https://doi.org/10.1007/s11423-019-09671-6

Getenet, S., Cantle, R., Redmond, P., & Albion, P. (2024). Students' digital technology attitude, literacy and self-efficacy and their effect on online learning engagement. *International Journal of Educational Technology in Higher Education, 21*(3).

Han, J., Kelley, T., & Knowles, J. G. (2021). Factors influencing student STEM learning: Self-efficacy and outcome expectancy, 21st-century skills, and career awareness. *Journal for STEM Education Research, 4*, 117-137. https://doi.org/10.1007/s41979-021-00053-3

Haque, M. A., Zhang, X., Akanda, A. K. M. E., Hasan, M. N., Islam, M. M., Saha, A., & Hossain, M. I. (2023). Knowledge sharing among students in social media: The mediating role of family and technology supports in the academic development nexus in an emerging country. *Sustainability, 15*(13), 99832.

Hu, B., & Zhao, Y. (2016). Creative self-efficacy mediates the relationship between knowledge sharing and employee innovation. *Social Behavior and Personality: An International Journal, 44*(5), 815-826. https://doi.org/10.2224/sbp.2016.44.5.815

Liu, Y., Kalk, D., Kinney, J., & Orr, G. (2017). Student interaction experiences in a distributed social media environment and their impact on learning. *Computers in Human Behavior, 72*, 24-35. https://doi.org/10.1016/j.chb.2017.02.019

Mian, T. S., & Lihabi, A. A. (2023). Impact of knowledge sharing, self-efficacy, and social media collaborative learning on student engagement: A study of Saudi university students. *Creative Education, 14*(09), 1737-1758. https://doi.org/10.4236/ce.2023.149112

Njiraine, D. (2019). Enabling knowledge sharing practices for academic and research in higher education institutions. *Information and Knowledge Management*. https://doi.org/10.7176/ikm/9-3-09

Nursyirwan, V. I., Purwana, D., Suhud, U., Harahap, I. L. P., & Hasan, D. (2023). Knowledge self-efficacy, rewards, and knowledge sharing behavior in Indonesia. *Journal of Law and Sustainable Development, 11*(12), 1-18.

Pan, X. (2020). Technology acceptance, technological self-efficacy, and attitude toward technology-based self-directed learning: Learning motivation as a mediator. *Frontiers in Psychology*.

Ponera, J. M. (2023). Information sharing through social media platforms among higher learning institutions in Tanzania. *East African Journal of Education and Social Sciences, 4*(3), 58-62. https://doi.org/10.46606/eajess2023v04i03.0277

Pour, M. J., & Taheri, F. (2019). Personality traits and knowledge sharing behavior in social media: Mediating role of trust and subjective well-being. *On The Horizon: The International Journal of Learning Futures, 27*(2), 98-117. https://doi.org/10.1108/oth-03-2019-0012

Razak, N. A., & Latip, N. A. (2020). The relationship between technology self-efficacy and student engagement in online learning during the COVID-19 pandemic. *Asian Journal of University Education, 16*(3), 1-12. https://doi.org/10.24191/ajue.v16i3.10294

Safdar, M., Batool, S. H., & Mahmood, K. (2021). Relationship between self-efficacy and knowledge sharing: Systematic review. *Global Knowledge, Memory and Communication, 70*(3), 254-271.

Salleh, S. M., Hamzah, S. F. M., Ali, N. M., Yusof, H. S. M., Mohammed, N. H., Nor, R. M., Rashid, R. A., & Noor, H. M. (2023). The association between age and time spent on online activity among university students. *International Journal of Academic Research in Business & Social Sciences*. https://doi.org/10.6007/ijarbss/v13-i12/20049

Salleh, S. M., Hussin, S. N., Hamzah, S. F. M., Yusof, H. S. M., & Ali, N. M. (2020). Social media addiction among students in public universities. *Jurnal Intelek, 15*(1), 48-53. https://doi.org/10.24191/ji.v15i1.7268

Salleh, S., Yusof, H. S. M., Mohammed, N. H., Zahari, A. S. M., & Hamzah, S. F. M. (2020). Knowledge sharing in online community: A review. *1529*(2), 022052. https://doi.org/10.1088/1742-6596/1529/2/022052

Saleh, S. H., & Samsudin, A. Z. H. (2021). Determinants for knowledge sharing behaviors among undergraduate students in public universities in Malaysia. *Journal of Academic Library Management, 1*(1), 1-11.

Sivakumar, A., Jayasingh, S., & Shaik, S. (2023). Social media influence on students' knowledge sharing and learning: An empirical study. *Education Sciences, 13*(7), 745. https://doi.org/10.3390/educsci13070745

Xia, Z., & Yang, F. (2020). Ethical leadership and knowledge sharing: The impacts of prosocial motivation and two facets of conscientiousness. *Frontiers in Psychology, 11*. https://doi.org/10.3389/fpsyg.2020.581236

Xu, L., Zhang, M., & Liu, Y. (2024). Examining the influence of technological self-efficacy on ICT usage and knowledge-sharing behavior in higher education. *Educational Technology Research and Development, 72*(3), 178-194. https://doi.org/10.1007/s11423-024-0987

Yaqub, M. Z., & Alsabban, A. (2023). Knowledge sharing through social media platforms in the Silicon Age. *Sustainability, 15*, 6765. https://doi.org/10.3390/su15086765

Zulkarnain, N., Abdul Rahman, S., & Yusoff, M. S. A. (2021). Digital competency among students: A case study at UiTM Kelantan Branch. Journal of Academic Library Management, 1(1), 55-64.