



Enhancing Remote Work Satisfaction and Performance Based on Information and Digital Literacy

Mar'atus Sholikhah^a, Anni Safitri^b

^{a,b} Politeknik Balekambang Jepara, Jepara, Indonesia

ARTICLE INFO

ABSTRACT:

Keywords:

Information literacy, digital literacy, remote work, satisfaction, and performance.

Article History:

Received March 20, 2025

Revised April 29, 2025

Accepted May 20, 2025

Available online May 31, 2025

Correspondence:

Mar'atus Sholikhah, Study Program of International Business Administration, Politeknik Balekambang Jepara, Jepara, Indonesia. Email: maratussholikhah.polibang@gmail.com

In the digital transformation era and the widespread adoption of remote work, employees must possess strong information and digital literacy skills. This study aims to examine the effect of information and digital literacy on remote work satisfaction and performance. The study also aims to investigate the mediating role of information literacy in the relationship between digital literacy and remote work performance. This study employed a quantitative research design using a cross-sectional survey approach. A total of 68 remote workers were selected through purposive sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The findings indicate that both information and digital literacy significantly and positively impact remote work satisfaction and performance. Furthermore, information literacy was found to mediate the effect of digital literacy on remote work performance, suggesting that individuals with higher digital skills are more likely to perform effectively when they can also effectively manage and utilize information. This study contributes a novel perspective by highlighting the dual role of literacy as a foundational and mediating factor in enhancing remote work outcomes. Then, the practical standpoint, the results underscore the importance of organizations investing in literacy development programs to enhance employee satisfaction and productivity in digital environments

This is an open-access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



INTRODUCTION

Remote work is a phenomenon that has become widespread in various organizations (Kossek & Lautsch, 2018). Even in the United States, remote work has increased from 1.8 million workers in 2005 to 3.9 million in 2017, then increased by 35% in 2020. In Europe, remote work increased by 2% in 2015 and 37% in 2020 (Bick et al., 2020). Remote work has become prevalent in developing countries (Nguyen, 2021).



Therefore, organizations must adopt consistent strategies to upskill their workforce (Berger & Frey, 2016; Kane, 2019). Most of the workforce in Indonesia still lacks adequate computer skills. As a result, employees experience obstacles in working remotely, including the inability to work in teams remotely, lack of access to work-related information, and the risk of feeling ignored (Greer et al., 2023; IWANIUK et al., 2021; Pordelan et al., 2022; Tasrin et al., 2021). Drastically, remote workers experience a decrease in communication with their coworkers, causing the quality of employee relationships and employee performance to decrease.

Employee work performance is the most important criterion in assessing organizational performance (Prasad & Vaidya, 2020). Therefore, this study studied the factors that affect employee performance while working remotely. The demands of remote work increase the use of information technology, so many organizations adopt information technology solutions (Mohammadyari & Singh, 2015). For this reason, information technology plays an important role in behavioral, social, and organizational aspects of people's lives, so the emphasis is on how organizations can adapt to technology (Carroll & Conboy, 2020). Meanwhile, some behavioral characteristics and employee skills become more significant for achieving high performance in remote work.

One of the most significant factors in the effectiveness of information technology utilization is information literacy and digital literacy of employees, namely technology skills. Literacy is a set of competencies, knowledge, and skills needed in various life situations. Therefore, employers increasingly seek new workers with high literacy levels, such as information digital literacy (Collard et al., 2017). Such literacy has been identified as the most important skill in the digital age (Farrell et al., 2021). Thus, the organization can be said to be able to realize efficient transformative digitalization and become a digitally ready workplace if workplace literacy is applied.

Previous research has found that low information and digital literacy can result in employee job dissatisfaction (O'Neill et al., 2014). Meanwhile, research on information literacy and digital literacy in remote work is still minimal, so this study aims to investigate the role of information literacy and digital literacy in influencing remote job satisfaction and employee performance. Based on the existing literature, there is a gap in the effect of various factors on remote job satisfaction and employee performance.

METHOD

Data collection would be done using convenience and snowball sampling questionnaires. Once the respondents are identified, an online questionnaire link is sent to them via social media. One hundred fifty questionnaires were distributed, and 68 filled out questionnaires, resulting in a response rate of 45%. Respondents were assured of the confidentiality and anonymity of their responses.

Data analysis of this study used a structural model. All questionnaire items reflect the research model, and then the value of item validity is determined using the loading factor (Hair et al., 2017). The limit of the loading factor value used is above 0.70.

Table 1. Demographic Data

	N	%
Education		
High School	6	8.9
Bachelor Degree	32	47.0
Master Degree	30	44.1
Kind of Organization		
Public	13	19.1
Private	48	70.5
Non-profit	7	10.3

Table 2. Validity and Reliability Score

Variable	Items	Factor loadings	Alpha	AVE
Information literacy	LI1	0.78	0.947	0.72
	LI3	0.87		
	LI4	0.91		
	LI5	0.89		
	LI6	0.80		
Digital literacy	LD1	0.75	0.837	0.81
	LD2	0.74		
	LD3	0.70		
	LD4	0.86		
	LD5	0.79		
	LD6	0.82		
	LD7	0.87		
	LD8	0.75		
	LD9	0.81		
Remote work satisfaction	KPJ1	0.89	0.893	0.72
	KPJ2	0.93		
	KPJ3	0.92		
Remote employee performance	KNJ1	0.89	0.958	0.64
	KNJ2	0.86		
	KNJ3	0.82		
	KNJ4	0.87		
	KNJ5	0.85		

The questionnaire items were adapted from previous research. Remote work performance with five items adapted from Belanger (1999), an example of his statement item is "My work environment makes it easy for me to get work done in a timely and effective manner". The value of Cronbach's Alpha variable is 0.893. Remote satisfaction was measured with three modified items from Lee & Brand (2005). An example of a statement item is "I feel the satisfaction of remote work is more pronounced than usual work".

The value of Cronbach's Alpha variable is 0.958. Information literacy using instruments adopted from Ng (2012), with seven statement items. Information literacy statement items such as "I am sometimes not sure how much information I need to troubleshoot work-related problems" or "I can determine the veracity and reliability of the information." Digital literacy statement items are adapted from (van Deursen et al., 2016) with 10 items. An example of a question is, "I am tired when looking for information online". The value of Cronbach's Alpha variable is 0.837. All statement items are measured on a 5-point Likert scale where 1 = strongly disagrees and 5 = strongly agrees. The above data is analyzed using SmartPLS.

RESULTS AND DISCUSSIONS

This study used the SEM technique to test the research hypothesis in the model. The SEM results showed information literacy ($\beta = 0.38$, $t = 4.972$, $p < 0.001$) and digital literacy ($\beta = 0.53$, $t = 6.477$, $p < 0.001$) so that it had a significant influence on job satisfaction. Therefore, the second and fourth hypotheses, stating that "Information literacy affects job satisfaction" and "Digital literacy affects job satisfaction", are supported by the model. In addition, the SEM results show that information literacy ($\beta = 0.33$, $t = 5.438$, $p < 0.001$) and digital literacy ($\beta = 0.33$, $t = 4.458$, $p < 0.001$) so that it has a significant influence on remote work performance. Therefore, the first and third hypotheses, stating that "Information literacy affects remote work performance" and "Digital literacy affects remote work performance", are supported by the model.

The results of the mediation test consider the role of information literacy on the influence of digital literacy on remote work performance. The results showed that there was an indirect influence of digital literacy on remote performance, mediated through information literacy so that digital literacy ($\beta = 0.40$, $t = 2.552$, $p < 0.001$) and work performance ($\beta = 0.22$, $t = 2.918$, $p < 0.001$), both directly affect remote work performance.

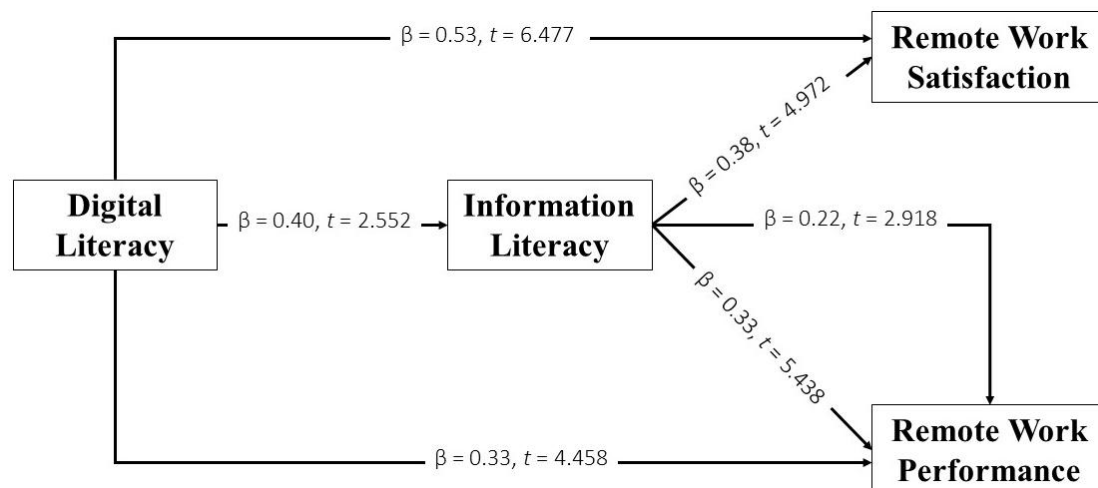


Figure 1. Research Framework

The impact of technology has resulted in many employees having to endure change. For this reason, this can cause gaps between generations, so it is necessary to learn information and digital literacy. However, there are significant differences regarding individual interactions with information and digital technology (Kirschner & De Bruyckere, 2017), so further research is needed. For this reason, this study developed a research model combining digital and information literacy to influence remote work satisfaction and performance. The results revealed that both variables, namely information literacy and digital literacy, significantly affect remote job satisfaction.

This study found that although information literacy and digital literacy affect remote work performance, information literacy directly impacts improving remote work performance. Because if individuals know better how to use information, it will be easier for them to use technology, impacting their performance. In other words, individuals with higher levels of information and digital literacy will find it easier to use digital technology to explore information for the benefit of work, making it easier for them to complete work.

A better understanding of the utilization of technology can help better use information resources. In addition, the findings of this research support the findings of Durodolu (2016), where information literacy has a significant effect on employee performance. The results obtained in this study are also in line with Yu et al. (2017, who state that information literacy and digital literacy have an impact on individual performance at work, and it is concluded that the level of individual information literacy is a vital factor. The results show that this research model is an appropriate model for literacy research in the context of remote work. So far, the influence of information and digital literacy is significant in improving organizational

performance. Like Forster (2019), the ability to access and use relevant information directly affects professional achievement and organization.

CONCLUSION

Based on information literacy and digital literacy, research theoretically contributes to the literature on remote job performance and satisfaction. Two variables of workplace literacy impact remote work satisfaction and performance. This research contributes to the literature on the importance of digital technology related to literacy in the context of the remote workplace. The findings of this study have several implications, as decision-making must pay full attention to employees' technological literacy level because literacy skills are important in the digital age.

In addition, literacy will significantly impact organisations that rely on skilled labour to remain competitive in the digital age (Farrell et al., 2021). Good literacy skills will improve performance because good performance means competent employees and constantly updated skills (Ali & Richardson, 2018). This research also helps the new generation entering the workforce that information literacy and digital literacy are critical. The limitation of this study is that the respondents studied in the study are assumed to have high digital skills and information literacy. Therefore, future studies should include other respondents with lower or higher literacy skills who may show different findings from the research model.

REFERENCES

- Ali, M. Y., & Richardson, J. (2018). Workplace information literacy skills: Library professionals' competency at university libraries in Karachi, Pakistan. *Information and Learning Science*, 119(7–8), 469–482. <https://doi.org/10.1108/ILS-10-2017-0107>
- Belanger, F. (1999). Workers' propensity to telecommute: An empirical study. *Information & Management*, 35, 139–153.
- Berger, T., & Frey, C. B. (2016). *Digitalization, Jobs, and Convergence in Europe: Strategies for Closing The Skills Gap*. www.empirica.com
- Bick, A., Blandin, A., & Mertens, K. (2020). Work from Home After the COVID-19 Outbreak. *Federal Reserve Bank of Dallas, Working Papers*, 2020(2017). <https://doi.org/10.24149/wp2017r1>
- Carroll, N., & Conboy, K. (2020). Normalising the “new normal”: Changing tech-driven work practices under pandemic time pressure. *International Journal of Information Management*, 55. <https://doi.org/10.1016/j.ijinfomgt.2020.102186>



- Collard, A. S., De Smedt, T., Dufrasne, M., Fastrez, P., Ligurgo, V., Patriarche, G., & Philippette, T. (2017). Digital media literacy in the workplace: a model combining compliance and inventivity. *Italian Journal of Sociology of Education*, 9(1), 122–154. <https://doi.org/10.14658/pupj-ijse-2017-1-7>
- Durodolu, O. O. (2016). Technology Acceptance Model as a predictor of using information system' to acquire information literacy skills. *Library Philosophy and Practice (e-Journal)*, 1450, 1–28. <http://digitalcommons.unl.edu/libphilprac/1450>
- Farrell, L., Newman, T., & Corbel, C. (2021). Literacy and the workplace revolution: a social view of literate work practices in Industry 4.0. *Discourse*, 42(6), 898–912. <https://doi.org/10.1080/01596306.2020.1753016>
- Greer, T. W., Payne, S. C., & Thompson, R. J. (2023). Pandemic-Induced Telework Challenges and Strategies. *Occupational Health Science*, 7(3), 575–602. <https://doi.org/10.1007/s41542-023-00151-1>
- Hair, J. F., Hult, T., Ringle, C. M., & Starsted, M. (2017). *A primer on partial least squares path modeling (PLS-SEM)* (2nd ed). SAGE.
- IWANIUK, A., HAWRYSZ, L., BULIŃSKA-STANGRECKA, H., & HURAS, P. (2021). Barriers to The Effectiveness of Teleworking in Public Administration. *Scientific Papers of Silesian University of Technology. Organization and Management Series*, 2021(153), 165–178. <https://doi.org/10.29119/1641-3466.2021.153.12>
- Kane, G. (2019). The Technology Fallacy: People Are the Real Key to Digital Transformation. *Research Technology Management*, 62(6), 44–49. <https://doi.org/10.1080/08956308.2019.1661079>
- Kirschner, P. A., & De Bruyckere, P. (2017). The myths of the digital native and the multitasker. In *Teaching and Teacher Education* (Vol. 67, pp. 135–142). Elsevier Ltd. <https://doi.org/10.1016/j.tate.2017.06.001>
- Kossek, E. E., & Lautsch, B. A. (2018). Work–life flexibility for whom? Occupational status and work–life inequality in upper, middle, and lower level jobs. *Academy of Management Annals*, 12(1), 5–36. <https://doi.org/10.5465/annals.2016.0059>
- Lee, S. Y., & Brand, J. L. (2005). Effects of control over office workspace on perceptions of the work environment and work outcomes. *Journal of Environmental Psychology*, 25(3), 323–333. <https://doi.org/10.1016/j.jenvp.2005.08.001>
- Mohammadyari, S., & Singh, H. (2015). Understanding the effect of e-learning on individual performance: The role of digital literacy. *Computers and Education*, 82, 11–25. <https://doi.org/10.1016/j.compedu.2014.10.025>
- Ng, W. (2012). Can we teach digital natives digital literacy? *Computers and Education*, 59(3), 1065–1078. <https://doi.org/10.1016/j.compedu.2012.04.016>
- Nguyen, M. H. (2021). Factors influencing home-based telework in Hanoi (Vietnam) during and after the COVID-19 era. *Transportation*, 48(6), 3207–3238. <https://doi.org/10.1007/s11116-021-10169-5>
- O'Neill, T. A., Hambley, L. A., & Bercovich, A. (2014). Prediction of cyberslacking when employees are working away from the office. *Computers in Human Behavior*, 34, 291–298. <https://doi.org/10.1016/j.chb.2014.02.015>



- Pordelan, N., Hosseinian, S., Heydari, H., Khalijian, S., & Khorrami, M. (2022). Consequences of teleworking using the internet among married working women: Educational careers investigation. *Education and Information Technologies*, 27(3), 4277–4299. <https://doi.org/10.1007/s10639-021-10788-6>
- Prasad, K., & Vaidya, R. W. (2020). Association among Covid-19 Parameters, Occupational Stress and Employee Performance: An Empirical Study with Reference to Agricultural Research Sector in Hyderabad Metro. *Sustainable Humansphere*, 16(2), 235–253.
- Tasrin, krismiyati, Wahyuadianto, A., Pratiwi, P., & Masrully, M. (2021). Evaluation Study of the Implementation of Flexible Working Arrangement in Public Sector Organization during Covid-19 Pandemic. *BISNIS & BIROKRASI: Jurnal Ilmu Administrasi Dan Organisasi*, 28(3). <https://doi.org/10.20476/jbb.v28i3.1274>
- van Deursen, A. J. A. M., Helsper, E. J., & Eynon, R. (2016). Development and validation of the Internet Skills Scale (ISS). *Information Communication and Society*, 19(6), 804–823. <https://doi.org/10.1080/1369118X.2015.1078834>
- Yu, T. K., Lin, M. L., & Liao, Y. K. (2017). Understanding factors influencing information communication technology adoption behavior: The moderators of information literacy and digital skills. *Computers in Human Behavior*, 71, 196–208. <https://doi.org/10.1016/j.chb.2017.02.005>