

The Moderating Role of Workability in Enhancing the Effects of Perceived Learning and Psychological Safety on Innovation Work Behaviors in Indonesia Garment Industry

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ABSTRACT:

This study addresses the urgent challenges faced by Indonesia's labor-intensive garment industry. The research used a quantitative cross-sectional survey, data were collected from 220 managerial employees in Jabodetabek Region (Greater Jakarta) and analyzed with PLS-SEM. Results show that perceived learning positively affects IWB, and psychological safety also enhances IWB. However, workability negatively moderates the relationship between psychological safety and IWB, while positively moderating the link between perceived learning and IWB. These findings offer new insights into the nuanced role of workability in innovation dynamics within hierarchical and collectivist cultural contexts. This research provides practical strategies for transforming labor cost pressures into competitive advantage through targeted learning and workability initiatives in an industry where innovation is not merely beneficial but essential for survival.

Keywords: Innovation work behavior, perceived learning, psychological safety, workability.

1. Introduction

The Indonesian garment and textile industry faces a critical juncture where rising labor costs (5-8% annual minimum wage increases) collide with the imperative for innovation in an increasingly competitive global market (Phan et al., 2022). As a labor-intensive sector employing

millions of workers, this industry cannot sustainably increase operational costs while maintaining competitiveness (Miah et al., 2024). The urgency of this research stems from the industry's vulnerability to these economic pressures combined with the need for digital transformation, where experienced managers (10+ years) often lack familiarity with new

technologies despite possessing valuable institutional knowledge (Pfrombeck et al., 2024).

This study focuses on how perceived learning and psychological safety influence innovation work behavior among managerial employees in the garment and textile industry, with workability as a crucial moderating factor. Innovation work behavior (IWB) represents the behavioral dimension of innovation, encompassing "the creation, promotion, and implementation of ideas that are new to the organization" (Fasbender et al., 2021). Unlike mere creativity, IWB requires individuals to navigate social processes to turn ideas into reality, making it particularly relevant in complex organizational settings like the garment industry.

The importance of this research stems from the unique challenges faced by the garment and textile industry. As noted in the literature, organizations in traditional manufacturing sectors often struggle to balance established practices with innovative approaches, creating tension between experience and innovation (Pfrombeck et al., 2024). Managers with over ten years of experience, while possessing valuable institutional knowledge, may experience reduced workability due to digital transformation pressures, making it difficult for them to contribute innovative ideas (Pfrombeck et al., 2024).

The garment and textile industry presents a particularly urgent case for this research. As one of Indonesia's priority sectors in the Making Indonesia 4.0 program, it remains a labor-intensive industry that employs millions of workers across the supply chain (United Nations Industrial Development Organization (UNIDO), 2022). This labor-intensive nature makes the industry highly vulnerable to annual minimum wage increases, which typically range between 5% to 8% each year (Miah et al., 2024). These rising labor costs, combined with increasing global competition from countries with lower wage structures, create immense pressure for Indonesian garment companies to improve productivity and innovation without significantly increasing operational costs.

According to the Digital Transformation Landscape Index (DTLI) 2023, most textile companies in Indonesia are still in the early stages of digital transformation, lagging behind global competitors (Darmawan et al., 2023). The United Nations Industrial Development Organization (UNIDO) emphasizes that the textile sector in developing countries, including Indonesia, requires significant transformation in reskilling and upskilling to meet the demands of AI and IoT-based automation (United Nations Industrial Development Organization (UNIDO), 2022). Unfortunately, most available training programs remain traditional and fail to address the specific technological needs of Industry 4.0.

This situation creates a perfect storm for the industry: rising labor costs due to minimum wage increases, global competition requiring higher productivity, and a workforce that needs substantial upskilling to operate new technologies. The consequences of failing to address these challenges are severe reduced competitiveness, potential job losses, and even business closures (Seetharaman, 2020). In this context, fostering innovation work behavior among experienced managers becomes not just beneficial but essential for survival.

This research addresses a critical gap in understanding how to leverage the potential of experienced employees in traditional manufacturing industries. By examining the interplay between perceived learning, psychological safety, and workability, this study provides practical insights for organizations seeking to cultivate innovation among their senior workforce (Kyambade et al., 2024). The findings are particularly relevant for the Indonesian context, where high power distance and collectivist cultural values may influence how psychological safety and learning opportunities are perceived and utilized (Steil et al., 2020).

The primary objective of this study is to examine how perceived learning and psychological safety influence innovation work behavior among experienced managers in the garment industry, with workability as a crucial moderating factor. Specifically, we investigate: (1) the direct effects

of perceived learning and psychological safety on innovation work behavior; (2) the moderating role of workability in these relationships; and (3) how these dynamics can be leveraged to enhance innovation despite rising labor costs. By addressing these objectives, this research provides actionable strategies for garment manufacturers to transform their experienced workforce into an innovation asset rather than a cost burden.

This study is particularly timely given that most textile companies in Indonesia are still in early stages of digital transformation (Darmawan et al., 2023), while global competitors advance rapidly. The consequences of failing to address these challenges are severe on reduced competitiveness, potential job losses, and business closures (Seetharaman, 2020). By understanding how to foster innovation among experienced managers, organizations can improve productivity and quality without proportionally increasing costs, thereby maintaining competitiveness in the global market (Miah et al., 2024). The findings offer critical insights for industry leaders navigating the delicate balance between preserving valuable

institutional knowledge and embracing necessary innovation in an era of rising labor costs.

2. Methodology

This study employed a quantitative research design using a cross-sectional survey approach to examine the relationships between perceived learning, psychological safety, workability, and innovation work behavior among managerial employees in the garment and textile industry in Jabodetabek Region (Greater Jakarta). The research followed a positivist paradigm, focusing on identifying causal relationships between the constructs of interest (Steil et al., 2020).

The conceptual framework (Figure 1) illustrates the proposed relationships, with perceived learning and psychological safety as antecedents of innovation work behavior, and workability as a moderating variable influencing both relationships. The framework draws on diffusion of innovations theory (Rogers, 2007), job demands-resources theory (Bakker & Demerouti, 2023), and the SECI Framework (Nonaka & Takeuchi, 1995) to explain how learning processes and psychological conditions influence innovative behaviors in a multigenerational workplace.

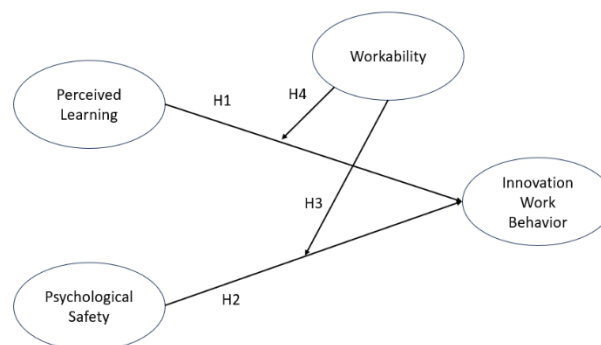


Figure 1. Research Model

The population for this study comprised managerial employees (Supervisors and above) with at least 10 years of experience working in garment and textile companies in the Jabodetabek Region (Greater Jakarta). The sample size was determined a minimum of 10 observations per indicator in structural equation modeling (Hair et al., 2019). With 25 indicators across the four constructs (5 for perceived

learning, 6 for psychological safety, 4 for workability, and 7 for innovation work behavior), the minimum sample size required was 220.

However, considering potential non-response and data quality issues, the researchers targeted 250 respondents and successfully collected 220 usable responses, representing a response rate of 88%. The final sample consisted of 220 managers with an average work experience of 14.7 years.

The gender distribution was 58% male and 42% female, reflecting the gender composition typically found in managerial positions within the Indonesian garment industry. The age range of respondents was 40-58 years, with a mean age of 45.3 years, indicating a workforce with substantial experience but potentially facing challenges related to digital transformation and changing industry demands.

The questionnaire used in this study was carefully developed based on validated scales from previous research, adapted to the specific context of the Indonesian garment industry. The survey instrument consisted of two main sections: demographic information and the measurement of research constructs. The demographic section collected data on gender, age, education level, job position, and years of experience, while the main instrument section comprised 22 items measuring the four key constructs of interest. All items were measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), which is widely recognized for its reliability and validity in organizational research.

The Perceived Learning construct, five items were adapted from Porath et al. (2012), with each item capturing different dimensions of how managers perceive their learning experiences in the workplace. The items included statements such as "I feel that I frequently gain new knowledge in my job," "I continue to learn and develop over time at work," "I feel my abilities improve over time in my job," "I view my work as a valuable opportunity for learning," and "I feel I experience personal development through work activities." These items were selected based on their strong theoretical foundation and previous empirical validation in organizational contexts, while being carefully adapted to reflect the specific challenges faced by managers in the garment industry.

The Psychological Safety construct was measured using six items derived from Edmondson's seminal scale (A. Edmondson, 1999), which has been widely validated across various cultural contexts. The items included "I feel my team supports me when I make mistakes," "I can discuss difficult

issues with my team without fear," "I feel respected and valued even though my way of thinking differs from other team members," "I feel safe taking risks when working with my team," "I feel easy and comfortable asking for help from team members," and "I feel my unique skills and talents are valued and utilized by the team." These items were chosen to comprehensively capture the multidimensional nature of psychological safety in hierarchical organizational settings typical of Indonesian garment companies.

The Workability construct, four items were adapted from McGonagle et al. (2015), focusing on the capacity of managers to sustain their work performance in the face of changing demands. The items included "I feel I have sufficient ability to complete my work well," "I feel capable of handling mental challenges in my work," "I am confident I can work effectively and productively in the coming years," and "I have sufficient energy and motivation to continue working effectively." These items were specifically selected to reflect the physical, cognitive, and motivational aspects of workability relevant to experienced managers in a rapidly transforming industry.

The Innovation Work Behavior construct was measured using seven items from De Jong & Den Hartog. (2010), which capture the full spectrum of innovation processes from idea generation to implementation. The items included "I notice things beyond my routine work tasks," "I often think of new ways to improve efficiency," "I try to find different solutions to solve problems," "I create new ideas to overcome difficult problems," "I can make colleagues or superiors interested and enthusiastic about innovative ideas," "I contribute to implementing new ideas," and "I realize ideas that can be applied in work practice." These items were carefully adapted to reflect innovation behaviors relevant to managerial roles in the garment industry context.

Prior to the main survey, the questionnaire underwent a rigorous pre-testing process with 30 respondents who shared similar demographic characteristics with the target population but

were not included in the main sample. The pre-test served multiple purposes: to verify the clarity of the items and their appropriateness for the Indonesian garment industry context, to assess the internal consistency of the scales, and to identify any potential ambiguities in the wording. The reliability analysis from the pre-test showed Cronbach's alpha values above 0.8 for all constructs, indicating excellent internal consistency. Based on the pre-test results and feedback from respondents, minor wording adjustments were made to enhance clarity without altering the theoretical meaning of the items. The final questionnaire was distributed using a combination of online (Google Forms) and face-to-face methods to accommodate different preferences among managerial respondents, with all participants assured of the confidentiality of their responses.

The data were analyzed using partial least squares structural equation modeling (PLS-SEM) with Smart-PLS V3 software. This approach was chosen because it is well-suited for predictive research and can handle complex models with smaller sample sizes (Hair et al., 2019). The analysis proceeded in two stages: first, evaluating the measurement model to assess reliability and validity of the constructs; second, examining the structural model to test the hypotheses. The measurement model was assessed through indicator reliability, internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted), and discriminant validity (Fornell-Larcker Criterion and Cross-Loadings). The structural model was evaluated through Path Coefficients, R-Squared, and Effect Sizes. For the moderation hypotheses, we created interaction terms between the independent variables and the moderator (workability) following the procedure outlined by Chin (Chin, 2010).

3. Results

Population and sample

The population for this study comprised managerial employees (Supervisors and above) with at least 10 years of experience working in garment and textile companies in the

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Measurement Instruments

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4. Discussion

Based on the analysis conducted, this study provides important insights into the relationship between psychological factors and innovative behavior among older employees in multigenerational organizations. Empirical findings indicate that Perceived Learning has a significant positive effect on Innovation Work Behavior (IWB), as predicted in H1. This result is consistent with social learning theory, which states that individuals' perceptions of their learning ability influence their propensity to explore new ideas (Bandura, 1986). This finding is supported by Qazi et al. (2023), who found that employees who perceive themselves to be learning more tend to be more open to creative experimentation and more willing to take risks in the innovation process. Thus, Perceived Learning is a crucial cognitive foundation for triggering innovative behavior, particularly in the context of digital transformation, which requires continuous adaptation to new technologies.

Significant findings were also evident in H2, which examined the effect of Psychological Safety on IWB. The analysis showed that Psychological Safety had a positive and significant effect on IWB, supporting the argument that a psychologically safe work environment enables employees to innovate without fear of negative consequences (Edmondson & Lei, 2014). These findings align with research by Kyambade et al. (2024), which states that employees in environments with high levels of psychological safety are more likely to take innovative initiatives and experiment with new work approaches. In the context of older

employees who frequently face uncertainty related to digital technology, psychological safety acts as a catalyst, enabling them to overcome their fear of failure and spark creativity in solving work problems.

Furthermore, this study examined the moderating role of workability in the relationship between psychological safety and IWB (H3). The results indicate that workability strengthens the relationship between psychological safety and IWB, meaning the influence of psychological safety on IWB is stronger when older employees have high levels of workability. These findings enhance the Job Demands-Resources Theory from Bakker & Demerouti (2017) by demonstrating that personal resources (in this case, workability) can amplify the effect of environmental resources (psychological safety) on innovative work outcomes. Hlado & Harvankova (2024) support this finding by showing that employees with high workability are better able to translate psychological safety into concrete innovative actions, as they perceive they have the capacity to effectively implement new ideas.

This study revealed an unexpected and statistically significant result a negative interaction effect between workability and psychological safety on innovation work behavior, with a coefficient of -0.370. This finding suggests that for employees with high levels of workability, psychological safety reduces the tendency to innovate, providing an important critical perspective, especially in the context of the Indonesian manufacturing industry undergoing digital transformation. In an Indonesian work culture that emphasizes hierarchy and seniority (High Power Distance with a score of 78), older employees who feel psychologically safe and have high workability may feel less need to innovate because their positions are secure and there is no pressure to maintain their relevance.

This finding is consistent with research by Zhu et al. (2022) indicated that Psychological Safety does not always have a positive impact on innovation, especially when combined with other factors

such as high Workability. In Indonesia's collectivist culture which referring a score of 14 according to Hofstede et al. (2010), the presence of high Psychological Safety in older employees with high Workability may reduce the need to take risks or innovate due to the focus on group harmony and organizational stability.

This finding is also in line with the findings of Pfrombeck et al. (2024) who stated that when Psychological Safety is too high in employees with high Workability, it eliminates the need to learn from younger colleagues, thereby reducing opportunities for innovation that arise from cross-generational knowledge transfer. In the context of implementation, these findings suggest that human resource management strategies need to be more nuanced and situation-based, with different approaches for employees with different levels of Workability. For older employees with high Workability, management may need to create measurable tensions or innovation challenges, rather than relying solely on Psychological Safety. These findings add to the literature on Innovation Work Behavior by demonstrating that the effects of Psychological Safety on innovation behavior can be more nuanced and situation based.

5. Conclusion

Based on the findings of this study, it can be concluded that Perceived Learning has a significant positive influence on Innovation Work Behavior, indicating that the higher employees' perceptions of mastering new knowledge, the greater their tendency to innovate

at work. Psychological Safety also positively influences Innovation Work Behavior, indicating that a psychologically safe work environment encourages employees to innovate. An interesting finding occurs in the relationship between moderating variables, where the interaction between Workability and Perceived Learning strengthens the influence on Innovation Work Behavior. Conversely, the interaction between Workability and Psychological Safety actually produces a negative influence on Innovation Work Behavior, indicating that in employees with high Workability, Psychological Safety actually reduces the tendency to innovate. These findings provide an important new perspective on the complex dynamics between psychological factors, work ability, and innovative behavior in the context of cross-generational work, and provide a strong empirical foundation for developing more effective HR management strategies to support innovation in the Indonesian manufacturing sector.

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7. Author Declaration

The authors confirm that this work is original and has not been published elsewhere or submitted for publication in another journal. The authors also declare that there are no conflicts of interest related to the publication of this work.

References

- Abbasi, F. and Riaz, K. 2016. CO2 emissions and financial development in an emerging economy: an augmented VAR approach. *Energy Policy* 90 (3): 102–114.
- AlEissa, H. S., & Durugbo, C. M. (2022). Systematic review of innovative work behavior concepts and contributions. In *Management Review Quarterly* (Vol. 72, Issue 4). Springer International Publishing. <https://doi.org/10.1007/s11301-021-00224-x>
- Atuahene, S. A., Qian, X. S., & Ahotovi, T. A. (2024). Impact of psychological safety and inclusive leadership on online learning satisfaction: the role of organizational support. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-03196-x>
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>

- Bakker, A. B., & Demerouti, E. (2023). The role of social support in sustaining motivation to continue working: Insights from workplace and family contexts. *Journal of Occupational Health Psychology*, 28(1), 45–60. <https://doi.org/https://doi.org/10.1037/ocp0000265>
- Bandura, A. (1986). *Social Foundations Of Thought and Action: A Social Cognitive Theory* (A. Bandura (ed.); First Edit). Prentice Hall.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking Time Seriously: A Theory of Socioemotional Selectivity. *American Journal of Psychologist*, 54(3), 165–181. <https://doi.org/10.1111/j.1540-5907.2007.00307.x>
- Chin, W. W. (2010). Handbook of Partial Least Squares - How to Write Up and Report PLS Analyses. In *Handbook of Partial Least Squares*. Springer Handbooks of Computational Statistics ((SHCS)). https://doi.org/https://doi.org/10.1007/978-3-540-32827-8_29
- Choi, W. S., Kang, S. W., & Choi, S. B. (2021). Innovative behavior in the workplace: an empirical study of moderated mediation model of self-efficacy, perceived organizational support, and leader–member exchange. *Behavioral Sciences - MDPI*, 11(12). <https://doi.org/https://doi.org/10.3390/bs11120182>
- Chughtai, M. S., & Khalid, Y. (2023). Learning organizations and innovative work behaviors: A moderated mediation model from the perspective of social schema theory. *Organizational Psychology*, 13(2), 207–229. <https://doi.org/https://doi.org/10.17323/2312-5942-2023-13-2-207-229>
- Darmawan, A. D., Catherine, M., Usmani, M. L., & Indraswari, T. D. (2023). Digital Transformation Landscape in Indonesia. In *Digital Transformation Center (DTC) & Make-IT Indonesia*. <https://cgd.ibc-institute.id/wp-content/uploads/2024/10/DTLI-2023.pdf>
- De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management*, 19(1), 23–36. <https://doi.org/10.1111/j.1467-8691.2010.00547.x>
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350–383. <https://doi.org/https://doi.org/10.2307/2666999>
- Edmondson, A. C., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(July), 23–43. <https://doi.org/10.1146/annurev-orgpsych-031413-091305>
- Elsayed, A. M., Zhao, B., Goda, A. E. mohsen, & Elsetouhi, A. M. (2023). The role of error risk taking and perceived organizational innovation climate in the relationship between perceived psychological safety and innovative work behavior: A moderated mediation model. *Frontiers in Psychology*, 14(January). <https://doi.org/https://doi.org/10.3389/fpsyg.2023.1042911>
- Fasbender, U., Gerpott, F. H., & Unger, D. (2021). “Give and take? Knowledge exchange between older and younger employees as a function of generativity and development striving.” *Journal of Knowledge Management*, 25(10), 2420–2443. <https://doi.org/https://doi.org/10.1108/JKM-11-2020-0856>
- Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, 99(4), 689–723. <https://doi.org/10.1037/0033-295X.99.4.689>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J. F., Sarstedt, M., & Ringle, C. M. (2021). Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research*. Springer Nature Switzerland AG. https://doi.org/https://doi.org/10.1007/978-3-319-05542-8_15-2
- Hlado, P., & Harvankova, K. (2024). Teachers’ perceived work ability: a qualitative exploration using the Job Demands-Resources model. *Humanities and Social Sciences Communications*, 11(1), 1–10. <https://doi.org/10.1057/s41599-024-02811-1>
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). Cultures and Organization: Software of the Mind. In *TLS - The Times Literary Supplement* (Issue 5671). McGraw-Hill.
- Ilmarinen, J. (2006). The Work Ability Index (WAI). *Occupational Medicine*, 57(2), 160–160. <https://doi.org/10.1093/occmed/kqm008>

- Karadeniz, B., Erzurum, E., Akcan, A. F., & Zaim, S. (2021). Intrinsic Motivation And Innovative Work Behavior: The Mediating Role Of Creative Self-Efficacy. *Social and Behavioural Science*, 136–144. <https://doi.org/10.15405/epsbs.2021.12.04.14>
- Kyambade, M., Namuddu, R., Mugambwa, J., & Namatovu, A. (2024). Psychological Safety and Innovative Work Behavior: Does Socially Responsible Leadership Matter? *SEISENSE Business Review*, 4(1), 1–13. <https://doi.org/https://doi.org/10.33215/6gahb262>
- McGonagle, A. K., Fisher, G. G., Barnes-Farrell, J. L., & Grosch, J. W. (2015). Individual and work factors related to perceived work ability and labor force outcomes. *Journal of Applied Psychology*, 100(2), 376–398. <https://doi.org/10.1037/a0037974>
- Miah, M. T., Erdei-Gally, S., Dancs, A., & Fekete-Farkas, M. (2024). A Systematic Review of Industry 4.0 Technology on Workforce Employability and Skills: Driving Success Factors and Challenges in South Asia. *Economies*, 12(2), 0–24. <https://doi.org/https://doi.org/10.3390/economies12020035>
- Nonaka, I., & Takeuchi, H. (1995). The Knowledge-Creating Company. How Japanese Companies Create the Dynamics of Innovation Oxford University Press, New York. In *Book Summary*. Oxford University Press.
- Pfrombeck, J., Burmeister, A., & Grote, G. (2024). Older workers' knowledge seeking from younger coworkers: Disentangling countervailing pathways to successful aging at work. *Journal of Organizational Behavior*, 45(1), 1–20. <https://doi.org/10.1002/job.2751>
- Phan, X. T., Ngo, H. N., Nguyen, T. L., Pham, D. T., Truong, N. C., Pham, N. A., & Do, T. K. T. (2022). The effects of dynamic employee capabilities, fintech and innovative work behavior on employee and supply chain performance: Evidence from Vietnamese financial industry. *Uncertain Supply Chain Management*, 10(4), 1305–1314. <https://doi.org/https://doi.org/10.5267/j.uscm.2022.7.009>
- Porath, C., Spreitzer, G., Gibson, C., & Garnett, F. G. (2012). Thriving at work: Toward its measurement, construct validation, and theoretical refinement. *Journal of Organizational Behavior*. <https://doi.org/https://doi.org/10.1002/job.756>
- Qazi, S., Fatima, T., & Naseer, S. (2023). Perceived Learning Climate Between Perceived Investment in Employee Development and Innovative Performance: An Evidence From Emerging Perceived Learning Climate Between Perceived Investment in Employee Development and Innovative Performance: An Evidence. *NICE Research Journal*, 16(2), 61–86. <https://doi.org/10.51239/nrjss.v16i2.417>
- Rogers, E. M. (2007). Diffusion of innovations 1 Diffusion of innovations. *Free Press.(1976), "New Product Adoption and Diffusion," Journal of Consumer Research*, 5, 290–304.
- Seetharaman, P. (2020). Business models shifts: Impact of Covi-19. *International Journal of Information Management*, 54(June), 1–4. <https://doi.org/10.1016/j.ijinfomgt.2020.102173>
- Steil, A. V., de Cuffa, D., Iwaya, G. H., & Pacheco, R. C. dos S. (2020). Perceived learning opportunities, behavioral intentions and employee retention in technology organizations. *Journal of Workplace Learning*, 32(2), 147–159. <https://doi.org/https://doi.org/10.1108/JWL-04-2019-0045>
- United Nations Industrial Development Organization (UNIDO). (2022). *Industrial Development Report 2022: The Future of Industrialization in a Post-Pandemic World*. <https://www.unido.org/sites/default/files/unido-publications/2023-03/IDR-2022-en.pdf>
- Van der Heijden, B. I. J. M., Gorgievski, M. J., & De Lange, A. H. (2015). Learning at the workplace and sustainable employability: a multi-source model moderated by age. *European Journal of Work and Organizational Psychology*, 25(1), 13–30. <https://doi.org/10.1080/1359432X.2015.1007130>
- Wei, X., Saab, N., & Admiraal, W. (2024). What rationale would work? Unfolding the role of learners' attitudes and motivation in predicting learning engagement and perceived learning outcomes in MOOCs. *International Journal of Educational Technology in Higher Education*, 21(1). <https://doi.org/https://doi.org/10.1186/s41239-023-00433-2>
- Zhu, J., Lv, H., & Feng, Y. (2022). The Effect of Psychological Safety on Innovation Behavior: Focus on Mediating Effect of Job Crafting. *The Institute of Management and Economy Research*, 211(3), 79–94. <https://doi.org/https://doi.org/10.32599/apjb.11.3.202009.79>