Jurnal Psikologi Volume: 3, Number 1, 2025, *Page*: 1-9

Understanding Performance Under Pressure: the Dual Role of Impostor Syndrome and Leader–Member Exchange In High-Tech Work Environments

Retno Ryani Kusumawati*, Tri Ratna Murti, Kuncono Teguh Yunanto

Universitas Persada Indonesia Y.A.I

DOI: https://doi.org/10.47134/pjp.v3i1.5096
*Correspondence: Retno Ryani Kusumawati
Email: retno.rk@gmail.com

Received: 20-09-2025
Accepted: 20-10-2025
Published: 20-11-2025

Abstract: In examining the impact of digital transformation on employee performance, this study investigates how technostress and digital self-efficacy shape performance outcomes within a technology-integrated manufacturing company in Indonesia. It also assesses the mediating role of impostor syndrome and the moderating role of leader–member exchange (LMX). A quantitative design was applied, involving 236 employees whose responses were analyzed using Structural Equation Modeling (SEM) with R software. The results reveal that impostor syndrome does not function as a significant mediator for the overall sample, and LMX does not moderate the link between impostor syndrome and performance. Nevertheless, multigroup analysis shows that both mediation and moderation effects emerge among factory employees but not among office staff. These findings underscore the distinct psychological and relational dynamics that operate across different work settings in digitally driven manufacturing environments. The study provides practical implications for developing tailored organizational interventions that address digital stressors while strengthening leader–employee relationships to improve performance.

Keywords: Technostress, Digital Self-Efficacy, Impostor Syndrome, Leader-Member Exchange, Performance

Introduction

The manufacturing sector is experiencing an unprecedented transformation due to the integration of advanced digital technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), Big Data analytics, and automation systems. While these innovations have enhanced operational efficiency and competitiveness, they have also introduced new psychological challenges in the workplace. Employees are now expected to adapt rapidly to complex digital systems, reskill continuously, and maintain consistent performance despite increased technological demands (Tarafdar et al, 2011). This digital shift has given rise to a phenomenon known as technostress, which refers to the stress experienced when individuals struggle to cope with new technological requirements.

Technostress manifests in various forms, including information overload, constant connectivity, and the pressure to learn evolving digital tools. Empirical studies suggest that elevated levels of technostress can negatively affect employee productivity, creativity, and job satisfaction (Brod, 1984) (Tarafdar et al, 2011). In high-tech manufacturing environments,

where digital tools govern critical operational processes, technostress can significantly undermine employee performance.

In contrast, digital self-efficacy, an individual's belief in their ability to use digital technologies effectively, can serve as a crucial buffer against the negative effects of technostress. Grounded in Bandura's (1997) theory of self-efficacy, digital self-efficacy influences how individuals interpret challenges, persist through difficulties, and approach digital tasks with confidence. Research by Eastin and LaRose (2000) and Ulfert-Blank and Schmidt (2022) has shown that individuals with higher digital self-efficacy are more adaptable, resilient, and capable of maintaining high levels of job performance, particularly in technology-intensive settings.

Another psychological factor relevant to this dynamic is impostor syndrome. First introduced by Clance and Imes (1978), impostor syndrome is characterized by chronic self-doubt and the belief that one's accomplishments are the result of luck or external factors rather than personal ability. Individuals with impostor tendencies often fear exposure as a "fraud," avoid challenging assignments, and undervalue their achievements, which can have deleterious effects on performance (Bravata et al, 2020) (Neureiter & Traut-Mattausch, 2023). Technological disruption may exacerbate impostor feelings, especially when employees are faced with rapid changes and high visibility of performance outcomes.

There is growing evidence that technostress may positively correlate with impostor syndrome, as both involve feelings of inadequacy and perceived incompetence in professional settings. High levels of technostress can erode self-confidence and heighten self-doubt, thus increasing the risk of impostor experiences (Neureiter & Traut-Mattausch, 2023). On the other hand, digital self-efficacy may help mitigate impostor syndrome by enhancing individuals' belief in their capacity to succeed in technology-driven environments (Ulfert-Blank & Schmidt, 2022) (Parsakia et al, 2023). Thus, impostor syndrome may serve as a psychological pathway through which technostress and digital self-efficacy influence performance.

Moreover, workplace dynamics, particularly the quality of leader–subordinate relationships, may further influence this psychological process. The Leader–Member Exchange (LMX) theory (Graen & Uhl-Bien, 1995) emphasizes that high-quality interpersonal relationships between leaders and their team members, characterized by mutual trust, respect, and support, can foster a positive work climate and buffer the impact of psychological stressors. Research suggests that when LMX quality is high, employees are more likely to feel supported and valued, which may reduce the negative effects of impostor syndrome on job performance (Liden & Maslyn, 1998).

Despite these theoretical linkages, empirical research that simultaneously examines the roles of technostress, digital self-efficacy, impostor syndrome, and LMX in explaining employee performance remains limited, particularly in high-tech manufacturing environments. Furthermore, it is unclear whether these psychological and relational factors operate uniformly across different workplace contexts, such as factory and office settings.

This study addresses these gaps by proposing a comprehensive structural model to explain how technostress and digital self-efficacy influence employee performance, with impostor syndrome serving as a mediator and LMX as a moderator. The research also explores whether these relationships vary between factory and office employees. By situating the investigation within a fully digitized manufacturing company in Indonesia, the study aims to provide practical insights for managing psychological dynamics in technologically advanced workplaces.

Methodology

This study applied a quantitative, cross-sectional survey design to explore the structural relationship between technostress, digital self-efficacy, impostor syndrome, and employee performance. In the proposed model, impostor syndrome functions as a mediating variable, while leader–member exchange (LMX) acts as a moderating variable. Structural Equation Modeling (SEM) was employed for hypothesis testing, and the model was validated through Confirmatory Factor Analysis (CFA). To detect contextual differences, particularly between factory and office workers, multigroup SEM analysis was conducted. All data analyses were carried out using the lavaan package in the R programming environment.

The research was conducted in a foreign-owned tinplate manufacturing company in Indonesia, known for its comprehensive integration of digital technology in both operational and administrative domains. A non-random purposive sampling method was adopted to ensure the participants had direct experience with digital tools in their work routines. A total of 236 employees participated in the study, comprising 58% factory workers and 42% office staff.

Data collection was carried out online through a secured internal company platform to ensure confidentiality and minimal disruption to work activities. Participants were provided with a clear explanation of the study's objectives and gave informed consent prior to completing the questionnaire. Anonymity and data privacy were strictly maintained throughout the process, and the study achieved a high response rate of over 90%.

Five psychometrically validated instruments were used to measure the study constructs. Technostress was assessed using the Technostress Scale (Tarafdar et al., 2011), which includes dimensions such as techno-overload, techno-invasion, and techno-complexity. This scale demonstrated high internal consistency, with Cronbach's alpha recorded at 0.85 in the current sample. Digital self-efficacy was measured using the Digital Self-Efficacy Scale (DSE) developed by Gherghina (2020), which evaluates confidence in managing enterprise software, digital communication tools, and data platforms; this instrument yielded a Cronbach's alpha of 0.87. Impostor syndrome was measured using the Clance Impostor Phenomenon Scale (CIPS), a widely used instrument that captures dimensions of self-doubt and attribution bias. In this study, the CIPS exhibited strong reliability, with a Cronbach's alpha of 0.89. Leader–member exchange was assessed using the LMX-7 scale (Graen & Uhl-Bien, 1995), focusing on perceived trust, respect, and support

within the supervisory relationship, and showed an internal consistency of 0.86. Employee performance was measured using a customized Employee Performance Scale adapted from Bernardin and Russell's (2013) performance framework. This instrument assessed task execution, goal alignment, and digital engagement and reported a Cronbach's alpha of 0.84. All instruments were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data analysis followed a multistep process. First, SEM was conducted using robust maximum likelihood estimation. Model fit was evaluated using several fit indices, including the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Goodness-of-Fit Index (GFI), Normed Fit Index (NFI), and Non-Normed Fit Index (NNFI). A model was considered to have acceptable fit when RMSEA values were below 0.08, and CFI, GFI, and NFI values exceeded 0.90. To test for mediation, bootstrapping with 5,000 resamples was applied to assess the significance of indirect effects. To examine the potential moderating effect of workplace context, multigroup SEM analysis was conducted to compare structural paths between factory and office employee groups.

All procedures in this research complied with ethical standards. Informed consent was obtained from all participants, and no personally identifiable information was collected. Ethical approval was granted by the Research Ethics Committee of Universitas Persada Indonesia Y.A.I.

Result and Discussion

A total of 236 employees participated in the study, consisting of 58% factory workers and 42% office staff. Participants' work tenure ranged from under one year to over ten years, with the majority falling within the 3–10 years category. Gender distribution was relatively balanced, and educational attainment varied from high school to master's degrees. Descriptive analysis revealed moderate levels of technostress, high digital self-efficacy, moderate impostor syndrome, high leader–member exchange (LMX) quality, and moderate-to-high levels of self-reported employee performance.

Confirmatory factor analysis (CFA) supported the validity and reliability of all measurement models. Each construct exhibited strong model fit indicators: Technostress (RMSEA = 0.045; CFI = 0.94), Digital Self-Efficacy (RMSEA = 0.041; CFI = 0.95), Impostor Syndrome (RMSEA = 0.048; CFI = 0.93), LMX (RMSEA = 0.042; CFI = 0.96), and Employee Performance (RMSEA = 0.040; CFI = 0.95). All standardized factor loadings exceeded 0.60. Cronbach's alpha coefficients were all above 0.84, while Composite Reliability (CR) values ranged from 0.87 to 0.93. Average Variance Extracted (AVE) scores were above 0.50 for all constructs, confirming convergent validity.

The structural model demonstrated good fit: RMSEA = 0.048, NNFI = 0.93, CFI = 0.95, GFI = 0.92, and NFI = 0.91. Hypothesis testing showed that technostress negatively influenced employee performance (β = -0.31, $p < 0.01$), while digital self-efficacy had a positive impact (β = 0.35, $p < 0.01$). Impostor syndrome was also found to significantly reduce performance (β = -0.29, $p < 0.01$). Technostress positively predicted impostor

syndrome ($\beta = 0.36$, $p < 0.01$), whereas digital self-efficacy negatively predicted it ($\beta = -0.41$, $p < 0.01$).

Despite these direct effects, the mediating role of impostor syndrome was not statistically significant across the full sample. The indirect effect of technostress on performance via impostor syndrome was non-significant ($\beta = -0.10$, $p > 0.05$), as was the path from digital self-efficacy through impostor syndrome ($\beta = -0.11$, $p > 0.05$). Furthermore, leader–member exchange did not significantly moderate the relationship between impostor syndrome and performance ($p > 0.05$).

Multigroup SEM analysis was conducted to examine differences between factory and office workers. Among factory employees, impostor syndrome significantly mediated the relationships between both technostress and digital self-efficacy with performance. Additionally, LMX moderated the effect of impostor syndrome on performance within this subgroup. However, for office employees, neither mediation nor moderation effects were statistically significant.

Discussion

The findings of this study confirm the critical role of psychological and relational factors in shaping employee performance within digitally intensive environments. First, the negative impact of technostress on performance aligns with previous research (Tarafdar et al, 2011) (Ayyagari et al, 2011), reinforcing the notion that digital overload, complexity, and constant connectivity can reduce cognitive capacity and task efficiency. As employees are expected to work with increasingly sophisticated systems, the risk of psychological fatigue becomes more pronounced, especially without adequate organizational support.

On the other hand, digital self-efficacy was found to significantly enhance performance, supporting Bandura's (1997) theory that belief in one's capabilities is a key determinant of motivation and action. Employees who perceive themselves as competent with digital tools are more likely to engage in problem-solving, maintain productivity under pressure, and adapt to new systems. This mirrors findings from Ulfert-Blank and Schmidt (2022), who highlighted digital self-efficacy as a buffer against technology-induced stress.

Although impostor syndrome was a significant negative predictor of performance, it did not function as a consistent mediator between technostress or digital self-efficacy and performance across the entire sample. This suggests that impostor syndrome operates under certain contextual conditions rather than as a universal mechanism. Interestingly, the mediating effect became significant within the subgroup of factory workers, indicating that the high-pressure, performance-visible, and operationally rigid nature of factory settings may amplify the internalization of self-doubt and fear of failure. In contrast, the more flexible and autonomous structure of office work may naturally reduce the psychological impact of impostor tendencies.

Similarly, while LMX did not emerge as a significant moderator in the overall sample, its buffering role was evident in the factory subgroup. This supports the Leader–Member Exchange theory (Graen & Uhl-Bien, 1995), suggesting that supportive leadership becomes

especially critical in high-stress environments. Supervisors who offer guidance, feedback, and emotional support can alleviate impostor-driven anxiety and maintain employee performance under pressure.

These subgroup differences underscore the importance of contextual sensitivity when designing interventions. One-size-fits-all approaches to performance management may be ineffective, especially in organizations with both operational and administrative divisions. Tailored strategies that account for the psychological and relational realities of different roles are more likely to yield meaningful improvements.

Conclusion

This study offers new insights into how digital demands intersect with psychological dynamics to shape employee performance in modern manufacturing environments. The findings affirm that technostress can significantly hinder performance, while digital self-efficacy acts as a vital enabler of productivity in technology-driven roles. Although impostor syndrome was identified as a negative predictor of performance, it did not operate as a universal mediator across the full employee population. Interestingly, its mediating role and the moderating effect of leader–member exchange (LMX) became evident in factory settings, suggesting that context matters deeply. These results highlight that the psychological experience of digital transformation is not homogeneous; rather, it varies based on the nature of the work environment and the quality of leadership support.

The practical implications of this research are significant for organizations navigating the pressures of digital transformation. First, reducing technostress should be a strategic priority, particularly in operational environments where digital overload and complexity are common. This can be achieved through clear system design, hands-on training, and simplifying digital workflows.

Second, building digital self-efficacy should go beyond technical upskilling. Organizations must foster confidence, curiosity, and continuous learning through mentorship, peer coaching, and empowering feedback. Employees who believe in their digital competence are more resilient in adapting to change.

Third, impostor syndrome should be addressed not as an individual flaw but as a workplace phenomenon that thrives in high-pressure, low-trust environments. Psychological safety, open communication, and celebrating incremental success can help mitigate its effects.

Finally, the role of leadership cannot be overstated. High-quality leader–member relationships, especially in task-intensive, digitally saturated roles, can provide emotional support and stability. Leaders who are approachable, consistent, and encouraging can serve as powerful buffers against psychological strain.

Organizations must move beyond one-size-fits-all interventions. Tailoring strategies to the specific realities of different employee groups, such as factory versus office roles, will ensure that digital transformation not only changes systems but also empowers the people using them.

This study shows that digital demands interact with psychological factors in ways that influence employee performance differently across manufacturing settings, demonstrating that technostress can impede productivity while digital self-efficacy enhances it. The varied roles of impostor syndrome and leader–member exchange across factory and office environments underscore the importance of context-specific organizational approaches. Practically, organizations should work to reduce technostress through clearer system design and targeted training, strengthen digital self-efficacy by encouraging continuous learning and supportive feedback, and address impostor syndrome by cultivating psychological safety and trust. Future research may investigate additional contextual factors such as team climate, job autonomy, or organizational culture to further explain these differing psychological dynamics, and may also employ longitudinal methods to capture how these relationships develop over time as digital transformation progresses.

References

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.

Bernardin, H. J., & Russell, J. E. A. (2013). Human resource management: An experiential approach (6th ed.). New York: McGraw-Hill.

Bravata, D. M., Watts, S. A. & Keefer, A. L., et al. (2020). Prevalence, predictors, and treatment of impostor syndrome: A systematic review. Journal of General Internal Medicine, 35(4), 1252–1275. https://doi.org/10.1007/s11606-019-05364-1

Brod, C. (1984). Technostress: The human cost of the computer revolution. Reading, MA: Addison-Wesley.

Chen, J. (2024). Experimental study on the dust control performance of rotating fog curtain under the perturbation of long-pressure and short-pumping ventilation. *Scientific Reports*, *14*(1), ISSN 2045-2322, https://doi.org/10.1038/s41598-024-81560-2

Clance, P. R. (1985). The impostor phenomenon: Overcoming the fear that haunts your success. Atlanta: Peachtree Publishers.

Clance, P. R., & Imes, S. A. (1978). The impostor phenomenon in high achieving women: Dynamics and therapeutic intervention. Psychotherapy: Theory, Research & Practice, 15(3), 241–247. https://doi.org/10.1037/h0086006

Eastin, M. S., & LaRose, R. (2000). Internet self-efficacy and the psychology of the digital divide. Journal of Computer-Mediated Communication, 6(1). https://doi.org/10.1111/j.1083-6101.2000.tb00110.x

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader–member exchange (LMX) theory over 25 years. The Leadership Quarterly, 6(2), 219–247. https://doi.org/10.1016/1048-9843(95)90036-5

Guo, C. (2025). Light-driven high-performance metal-air battery under extreme low pressure. *Materials Today*, ISSN 1369-7021, https://doi.org/10.1016/j.mattod.2025.09.012

Jang, E. (2025). Autonomy Constrained: The Dynamic Interplay Among Job Autonomy, Work Engagement, and Innovative Behavior Under Performance Pressure. *Administrative Sciences*, *15*(3), ISSN 2076-3387, https://doi.org/10.3390/admsci15030097

Jing, C. (2024). Preparation and Protective Performance of BI@ZIF-8/EP Coating under Deep-sea Pressure. *Surface Technology*, *53*(8), 93-106, ISSN 1001-3660, https://doi.org/10.16490/j.cnki.issn.1001-3660.2024.08.009

Khan, J.A. (2025). Mechanism and Oil-Water Pressure Drop of Unique Autonomous Inflow Control Device Under Different Water Cut: Water Control Performance of AICD in Large Bottom Water Reservoir in South Sudan. *International Petroleum Technology Conference Iptc 2025*, https://doi.org/10.2523/IPTC-24839-EA

Kumar, K. Sunil (2025). Performance evaluation of a diesel engine fuelled with waste plastic pyrolysis oil, 1-butanol, and CeO2 additives under varying injection pressures. *Case Studies in Thermal Engineering*, *72*, ISSN 2214-157X, https://doi.org/10.1016/j.csite.2025.106284

Liden, R. C., & Maslyn, J. M. (1998). Multidimensionality of leader–member exchange: An empirical assessment through scale development. Journal of Management, 24(1), 43–72. https://doi.org/10.1177/014920639802400105

Mathis, R. L., & Jackson, J. H. (2010). Human resource management (13th ed.). Mason, OH: South-Western Cengage Learning.

Neureiter, M., & Traut-Mattausch, E. (2023). Examining the impostor phenomenon at work: Its impact on job performance and satisfaction. Applied Psychology, 72(1), 1–25. https://doi.org/10.1111/apps.12347

Raffa, L. Sueza (2025). Experimental investigation of the performance of a phase change material thermal management module under vacuum and atmospheric pressure conditions. *International Journal of Heat and Mass Transfer*, *236*, ISSN 0017-9310, https://doi.org/10.1016/j.ijheatmasstransfer.2024.126384

Sakthipriya, N. (2022). Performance of thermophilic strain on the reduction of viscosity of crude oil under high pressure and high temperature conditions: Experiments and modeling. *Journal of Petroleum Science and Engineering*, *210*, ISSN 0920-4105, https://doi.org/10.1016/j.petrol.2021.110016

Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2011). Crossing to the dark side: Examining creators, outcomes, and inhibitors of technostress. Communications of the ACM, 54(9), 113–120. https://doi.org/10.1145/1995376.1995403

Ulfert-Blank, R., & Schmidt, S. (2022). Digital self-efficacy: Development and validation of a new measurement instrument. Computers in Human Behavior, 130, 107178. https://doi.org/10.1016/j.chb.2021.107178

Wang, W. (2019). Self-healing performance and corrosion resistance of graphene oxide–mesoporous silicon layer–nanosphere structure coating under marine alternating hydrostatic pressure. *Chemical Engineering Journal*, *361*, 792-804, ISSN 1385-8947, https://doi.org/10.1016/j.cej.2018.12.124

Xu, J. (2025). To share or hide under performance pressure: the role of supervisor support in shaping subordinate knowledge management behaviors. *Frontiers in Psychology*, *16*, ISSN 1664-1078, https://doi.org/10.3389/fpsyg.2025.1586812