



The Effect of Technostress on Employee Performance: The Mediating Role of Anxiety among Generation Z in the Creative Industry

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ARTICLE INFO

Keywords: Technostress, Performance, Anxiety, Mediasi, Industri Kreatif

Received : 2 December 2025

Revised : 21 January 2026

Accepted: 21 February 2026

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ABSTRACT

The development of digital technology in the workplace has increased workers' dependence on technological systems, which has the potential to cause technostress, especially in the dynamic, digital-based creative industry sector. This study aims to analyze the effect of technostress on performance with anxiety as a mediating variable among Generation Z workers in the creative industry in Surabaya. The study uses a quantitative approach with a survey method involving 100 respondents selected through a non-probability sampling technique. The data were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM). The research results show that technostress has a positive and significant effect on anxiety, anxiety has a significant effect on performance, and anxiety is proven to partially mediate the relationship between technostress and performance. These findings indicate that technological pressure not only directly affects performance but also through employees' psychological conditions. This study provides empirical contributions to the study of technostress in the context of the creative industry and emphasizes the importance of managing employees' mental health in facing digital transformation in the workplace

INTRODUCTION

The development of digital technology in Indonesia has reached a very massive level. According to data from the Indonesian Internet Service Providers Association (APJII) in 2024, internet penetration in Indonesia has covered most of the population, especially in urban areas such as Surabaya, which has become a center for the creative industry. This high penetration forces workers in the creative sector to be digitally connected at all times. This phenomenon creates a condition of techno-invasion, where the boundaries between personal and professional life become blurred, ultimately triggering the emergence of technostress for workers (Fernández et al., 2023).

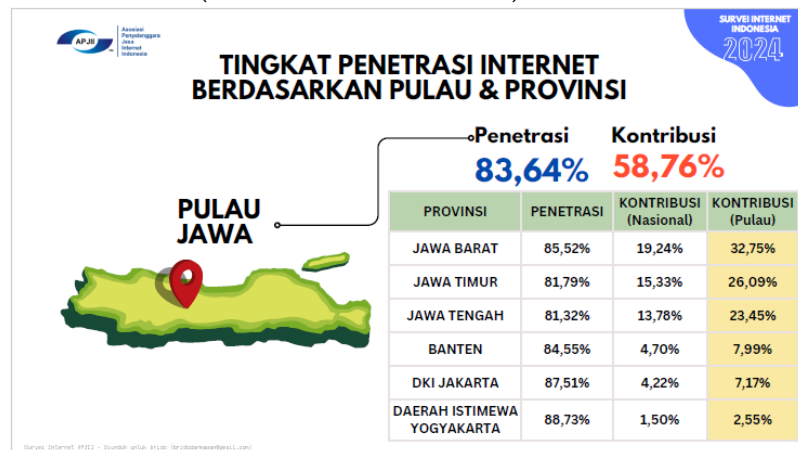


Figure 1 Percentage of Internet Usage Data in Indonesia in 2024
Source : APJII Indonesian Internet Penetration Survey Report (2024)

Technostress is defined as the psychological pressure that arises due to an individual's inability to keep up with the demands of rapidly advancing technology. This not only affects the technical aspects of work but also impacts the mental state of workers. Findings from the 2023 National Mental Health Survey (I-NAMHS) indicate that 1 in 3 young adults in Indonesia has mental health issues, with anxiety disorders being one of the main concerns. In the dynamic creative industry ecosystem, poorly managed technostress has a strong potential to trigger deeper work-related anxiety (Mada, 2023).

The negative emotional response in the form of anxiety can ultimately disrupt focus and productivity, leading to a decline in work performance (Tu et al., 2023). Although research on technostress has been extensively conducted in the context of digital organizations and teleworking, most studies still focus on the direct impact of technostress on job satisfaction, burnout, and employee performance. Research by Fernández-Fernández et al. (2023) and Tarafdar et al. (2015) indicates that technology-related stress has significant implications for psychological well-being and work productivity.

However, studies specifically examining the role of anxiety as a psychological mechanism mediating the relationship between technostress and performance are still limited, especially in the context of Generation Z workers in locally-based digital creative industries. In fact, the characteristics of Generation Z, who are heavily exposed to technology, along with the work dynamics in the creative industry, have the potential to strengthen the link

between technological pressure and workers' psychological conditions. Therefore, this study aims to fill this gap by examining the mediating role of anxiety in the relationship between technostress and performance among creative industry workers in Surabaya.

Workplace anxiety not only affects individuals but also influences social interactions and team work effectiveness. Chronic anxiety has been shown to decrease work motivation and increase emotional stress, thereby negatively impacting employee performance (Giorgi et al., 2020). The phenomenon of technostress and anxiety is becoming increasingly relevant in the digitally-based creative industry sector. Workers in the creative industry are required to continuously innovate, work under high time pressure, and keep up with rapid technological developments, thus having a higher risk of experiencing psychological stress..

Based on the description, this study aims to analyze the effect of technostress on performance with anxiety as a mediating variable among Generation Z workers in the creative industry in Surabaya. This research is expected to provide empirical contributions in managing technological pressure and employee mental health in the digital era.

LITERATURE REVIEW

Technostress

According to (Nkomo & Kalisz, 2025), technostress is stress that arises from excessive or improper use of technology, both in the workplace and in personal life. This condition refers to negative psychological and cognitive reactions that occur when individuals must adapt to constantly changing technological developments. Common symptoms include feelings of anxiety, emotional exhaustion, and an inability to keep up with technological advancements optimally. Indicators related to the occurrence of technostress according to (Nkomo & Kalisz, 2025) include:

- a) Techno-overload: pressure to work harder and faster due to increasingly intensive use of technology.
- b) Techno-invasion: disruptions from technology that make it difficult to separate work time and personal time due to a constant sense of connectivity.
- c) Techno-insecurity: feeling insecure about job continuity due to dependence on technology and fear of losing one's position.
- d) Techno-uncertainty: uncertainty that arises from rapid and continuous technological changes..
- e) Techno-complexity: challenges that arise due to the complexity of new technology that users must learn and master.
- f) Literacy facilitation: the level of technological literacy that affects the amount of stress experienced by individuals.
- g) Depression: long-term psychological impact, including feelings of depression due to the pressure of adapting to technology.

Rapid digital transformation has fundamentally reshaped modern workplaces, increasing employees' reliance on information and communication technologies. While technology improves efficiency and flexibility, excessive or

poorly managed technology use often generates technostress, a form of stress arising from difficulties in adapting to technological demands. Nkomo and Kalisz (2025) define technostress as a psychological strain caused by overexposure to digital systems, continuous connectivity, and the pressure to master rapidly evolving technologies.

Previous studies identify technostress as a multidimensional construct. Tarafdar et al. (2015) conceptualize technostress through dimensions such as techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty. These dimensions describe how technology can increase workload, blur work–life boundaries, create cognitive overload, and trigger fear of obsolescence. In digitally intensive sectors, these stressors are amplified as employees are expected to respond quickly, multitask, and continuously update their technical skills.

Empirical research consistently demonstrates that technostress negatively affects employees' psychological well-being. Giorgi et al. (2020), in a systematic review, conclude that technostress is associated with emotional exhaustion, reduced job satisfaction, and impaired cognitive functioning. In creative and knowledge-based industries, where performance depends on concentration and innovation, such psychological strain can be particularly damaging.

Anxiety

According to Kempton (2021:2), anxiety is a way the mind and body help deal with anything that is tense or dangerous. Anxiety is marked by feelings of worry, concern, and fear that can interfere with daily activities. According to Stafford (2020:1), anxiety in the workplace is a natural response to stress, and its chronic presence in the workplace can lead to significant emotional strain and decreased work productivity.

Indicators related to anxiety in the workplace include:

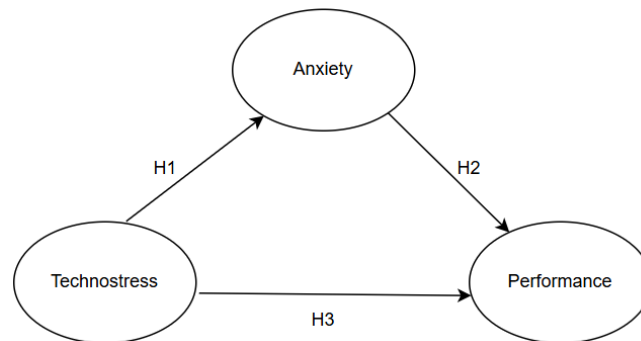
- a) Constant worry, even about small things.
- b) Mental and physical fatigue.
- c) Difficulty concentrating.
- d) Irritability (easily angered or offended).
- e) Avoidant behaviors such as procrastinating work, frequently taking leave from work.

Performance

Lessondesk (2023:5) Performance is a process that refers to the management and improvement of employee performance in the workplace. Performance includes activities such as setting work expectations, providing feedback, conducting evaluations, and implementing strategies to support performance improvement. Indicators of performance according to Lessondesk include:

- a) Objective Setting Determining clear and measurable work objectives, using the SMART principle (Specific, Measurable, Achievable, Relevant, Time-bound).
- b) Performance Appraisals Regular evaluation of employee performance compared to predetermined expectations and goals.
- c) Feedback Providing constructive and continuous input to help employees understand their strengths and areas for improvement.
- d) Coaching & Training Guidance and training to enhance skills and work capabilities.

- e) Recognition & Rewards Appreciation of employee contributions and achievements, both in the form of praise and formal incentives.
- f) Performance Improvement Plans Strategies to assist employees who have not met work standards through guidance and corrective actions.
- g) Performance Analytics The use of data and metrics (such as KPIs) to evaluate and optimize performance quantitatively.



Source: Processed by the Researcher (2026)

The hypotheses in this study include:

H1: It is suspected that Technostress has a significant effect on Anxiety.

H2: It is suspected that Anxiety has a significant effect on Performance.

H3: It is suspected that Technostress has a significant effect on Performance mediated by Anxiety

METHODS

Type of Research

This research uses a quantitative research type with the aim of examining the Effect of Technostress on Performance with Anxiety as a Mediating Variable on Creative Industry Workers in Surabaya. The method used involves numbers that will be analyzed statistically. The type of data used is primary data, which is data obtained directly from respondents. The sampling method used is non-probability sampling. The population in this study amounts to 100 respondents.

Data Collection Procedure

This study uses the distribution of questionnaires through the Google Form (G-Form) platform to respondents working in the creative industry. The questionnaire contains a number of statements that will be filled out by respondents according to their experiences while working in the creative industry in Surabaya. This study uses a Likert scale with scores from 1 to 5..

Tabel 1 Scoring Table for Questionnaire Responses

NO	Statement	Score
1	Strongly Disagree (SD)	1
2	Disagree (DA)	2
3	Somewhat Agree (SA)	3
4	Agree (A)	4
5	Strongly Agree (SA)	5

Sumber : Sugiyono (2023)

Data Analysis Technique

This study uses the SmartPLS 4 for Windows software application progressively in the data analysis process. The data analysis in this study involves tests including:

- Outer model test (convergent validity, discriminant validity, average variance extracted, composite reliability, and Cronbach's alpha)
- Inner model test (Coefficient of determination and Path coefficient)
- Hypothesis test (Bootstrapping and Specific Indirect Effect).

RESULTS

Research Data Description

This study involved 100 respondents who are employees of creative companies in Surabaya. All distributed questionnaires were returned completely and could be processed, resulting in a 100% response rate. The collected data were then analyzed using statistical software with the aim of testing the quality of the instruments and the causal relationships among the variables of technostress, anxiety, and performance.

Outer Model Test

Convergent Validity

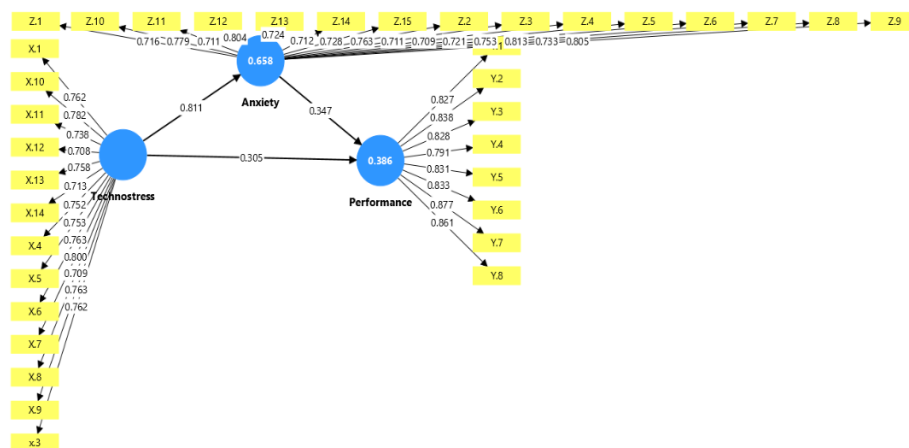


Figure 2 Convergent Validity
Source: Data processing with SmartPLS 4, 2026

Convergent validity of the measurement model with indicator reflections is assessed based on the correlation between the estimated component or item scores. The initial stage of developing a measurement scale must have a value of at least 0.7 to be considered sufficient.

1. Discriminant Validity

Tabel 1 Discriminant Validity

	Anxiety	Performance	Technostress
Technostress.1	0.561	0.390	0.762
Technostress.3	0.579	0.525	0.762
Technostress.4	0.590	0.508	0.752
Technostress.5	0.600	0.468	0.753
Technostress.6	0.654	0.502	0.763

Technostress.7	0.636	0.444	0.800
Technostress.8	0.570	0.311	0.709
Technostress.9	0.711	0.498	0.763
Technostress.10	0.616	0.369	0.782
Technostress.11	0.600	0.376	0.738
Technostress.12	0.622	0.363	0.708
Technostress.13	0.565	0.356	0.758
Technostress.14	0.591	0.554	0.713
Performance.1	0.509	0.827	0.473
Performance.2	0.477	0.838	0.498
Performance.3	0.468	0.828	0.421
Performance.4	0.449	0.791	0.482
Performance.5	0.459	0.831	0.436
Performance.6	0.552	0.833	0.607
Performance.7	0.532	0.877	0.503
Performance.8	0.513	0.861	0.476
Anxiety.1	0.716	0.545	0.632
Anxiety.2	0.763	0.496	0.668
Anxiety.3	0.711	0.474	0.647
Anxiety.4	0.709	0.250	0.605
Anxiety.5	0.721	0.293	0.571
Anxiety.6	0.753	0.469	0.640
Anxiety.7	0.813	0.497	0.676
Anxiety.8	0.733	0.348	0.563
Anxiety.9	0.805	0.450	0.636
Anxiety.10	0.779	0.434	0.624
Anxiety.11	0.711	0.349	0.547
Anxiety.12	0.804	0.621	0.657
Anxiety.13	0.724	0.473	0.531
Anxiety.14	0.712	0.366	0.496
Anxiety.15	0.728	0.461	0.534

Source: Data processing with SmartPLS 4, 2026

The test results from the table above show that the cross-loading values of each indicator are higher on their own variable than on other variables

Test of Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Tabel 2 Average Variance Extracted, Composite Reliability dan Cronbach's Alpha

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Anxiety	0.943	0.946	0.950	0.557
Performance	0.938	0.941	0.949	0.699
Technostress	0.936	0.937	0.944	0.565

Source: Data processing with SmartPLS 4, 2026

Based on the table above, the results show that the composite reliability and Cronbach's alpha are reliable with variable values above 0.70, indicating the consistency and stability of the instrument.

Inner Model Test

The inner model is used to examine the relationships between constructs, the significance values, and the R-Square of the research model. The inner model test is evaluated using R-Square and the t-test as well as the significance of the structural path parameter coefficients.

Coefficient of Determination

According to Ghozali (2021:147), the coefficient of determination (R^2) aims to measure how well the model can explain the variations in the dependent variable.

Tabel 3R-Square

	R-square	R-square adjusted
Anxiety (Z)	0.658	0.655
Performance (Y)	0.386	0.373

Source: Data processing with SmartPLS 4, 2026

From the results of the table above, it can be seen that the R-Square value of the Anxiety (Z) variable is 0.658, indicating that Anxiety as an intervening variable shows that 65.8% can be explained by the technostress variable, while 34.2% is explained by other variables not discussed in this study. For the Performance (Y) variable, the R-Square value is 0.386, meaning that performance shows that 38.6% is explained by the technostress and anxiety variables, while 61.4% is explained by other variables outside of the variables studied.

Path Coefficient

Tabel 4 Path Coefficient

	Anxiety	Performance	Technostress
Anxiety		0.347	
Performance			
Technostress	0.811	0.305	

Source: Data processing with SmartPLS 4, 2026

Based on the path coefficient results above, it shows that technostress affects anxiety as an intervening variable with a coefficient value of 0.811. Furthermore, anxiety affects performance with a coefficient of 0.347, indicating that the effect of technostress on performance is mediated through changes in the individual's psychological condition. In addition, technostress also has an effect on performance with a value of 0.305. Therefore, it can be concluded that anxiety can function as a partial intervening variable.

Hypothesis Testing

In hypothesis testing, this bootstrapping will analyze whether there is a significant effect of the independent variable on the dependent variable. The threshold for rejecting or accepting the proposed hypothesis is the probability value (P Value) of 0.05.

Tabel 5 Bootstrapping Hypothesis Test

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Technostress ->Anxiety	0.811	0.816	0.042	19.279	0.00
Anxiety -> Performance	0.347	0.350	0.169	2.048	0.04

Source: Data processing with SmartPLS 4, 2026

Tabel 6 Test of Specific Indirect Effect Hypothesis

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Technostress -> Anxiety -> Performance	0.282	0.287	0.143	1.972	0.04

Source: Data processing with SmartPLS 4, 2026

Based on the results of the hypothesis testing above, it can be concluded that:

- Technostress (X) has been proven to have a significant effect on Anxiety (Z) because the bootstrapping hypothesis test produced a P Value of $0.00 < 0.05$, so H1 can be considered accepted.
- Anxiety (Z) has been proven to have a significant effect on Performance (Y) because in the hypothesis test using bootstrapping, the P Value was $0.04 < 0.05$, therefore H2 can be considered accepted.
- Technostress has a significant effect on Performance mediated by Anxiety in the Specific Indirect Effect Hypothesis Test, resulting in a P Value of $0.04 < 0.05$, thus it can be concluded that H3 can be accepted

DISCUSSION

The research results show that technostress has a significant effect on employee anxiety. These findings also reinforce previous research results which stated that technostress is significantly correlated with employee performance. Salo & Pirkkalainen (2018) and Tarafdar et al. (2015) found that technology-induced stress can disrupt concentration, increase emotional fatigue, and decrease job satisfaction. This condition explains why employee performance in this study falls into the moderate category despite relatively high levels of technostress.

The research results also indicate that technostress has a significant effect on anxiety. These findings confirm that technological pressure does not stop at the technical aspects of work but develops into psychological pressure in the form of work-related anxiety. Fernandez et al. (2023) stated that technostress

often triggers emotional responses, especially when individuals feel they are losing control over the technology used in their work.

Anxiety experienced by employees has been proven to significantly affect performance. This finding is in line with Stafford's (2020) view that chronic anxiety in the workplace can reduce productivity, hinder concentration, and increase avoidance behavior.

Path analysis results indicate that anxiety acts as a partial mediating variable in the relationship between technostress and performance. This means that technostress not only directly reduces performance but also indirectly through increased work-related anxiety. These findings support the research of Fernandez et al. (2023). High technostress and anxiety can increase job uncertainty, thereby hindering the effectiveness of the performance evaluation system and reducing employee motivation to achieve set targets.

Overall, this discussion shows that managing technostress and anxiety is a key factor in maintaining employee performance, especially in digitally-based creative industries. Organizations need to balance technological demands with the provision of adequate work resources, such as technology training, psychological support, and flexible work systems. In this way, the negative impact of technostress can be minimized, and employees can maintain optimal performance amid the ongoing digital transformation.

These findings confirm that the pressure from intensive use of technology not only affects psychological aspects but also employee performance outcomes. In the context of the creative industry, which heavily relies on digital technology, high demands for adaptation can be a major source of stress that impacts work productivity.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of the hypothesis testing analysis regarding the Effect of Technostress on Performance with Anxiety as a Mediating Variable on Creative Industry Workers in Surabaya, it can be concluded as follows:

- a. H1 (Technostress → Anxiety): Technostress has been proven to have a significant effect on anxiety. This indicates that the burden of technological demands, which is not balanced with employees' adaptive capacity, triggers psychological pressure in the form of real work-related anxiety..
- b. H2 (Anxiety → Performance): Anxiety has been proven to significantly affect performance. This shows that anxiety disorders experienced by individuals in the workplace directly hinder concentration and effectiveness in completing creative tasks.
- c. H3 (Mediasi): Anxiety acts as a mediating variable in the influence of technostress on performance significantly. This shows that technological pressure not only harms performance technically, but its impact is exacerbated by the prior decline in employees' mental condition.

Based on the research findings, it can be concluded that technostress has a significant impact on employee performance, both directly and indirectly through anxiety as a mediating variable. High technology-based work demands

have been proven to increase work-related anxiety, which ultimately reduces employee performance. These findings emphasize that psychological aspects play an important role in explaining the impact of technological pressure on performance, particularly in the digital-based creative industry. Therefore, managing technostress and anxiety becomes a crucial factor in maintaining employee work effectiveness amid ongoing digital transformation.

Based on the research conclusions, it is recommended that organizations pay greater attention to managing technology-related stress by providing ongoing technology training, strengthening social support in the workplace, and creating a work system that balances digital demands with employees' capacities. In addition, organizations need to develop a clear, transparent, and supportive performance management system to minimize work-related anxiety. These efforts are expected to help employees adapt optimally to technological developments without compromising their mental health and performance.

FURTHER STUDY

This study has limitations in the number of respondents and the scope of research subjects, which is still limited to a single organization. Therefore, future research is recommended to involve a larger and more diverse sample, as well as to include other variables such as job resources, coping strategies, or work-life balance to enrich the understanding of the mechanisms of technostress impact on performance. In addition, using a qualitative approach or a mixed-methods approach can provide a deeper insight into employees' subjective experiences in dealing with technological pressure

ACKNOWLEDGMENT

The author would like to express gratitude to all parties who have contributed to the completion of this research, especially the management and employees of the creative company who were willing to be respondents and provide research data. The author also extends appreciation to the supervising lecturers and colleagues who have provided input, suggestions, and support throughout the process of preparing this article

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