MULTIDISCIPLINARY SCIENCE JOURNAL

RESEARCH ARTICLES
Published Online: March 28, 2026
https://doi.org/10.31893/multiscience.2026507

Understanding the role of curiosity, green technology perceptions, and creativity in shaping task performance and environmental impact in fashion industry

Iwan Sidharta[a] | **Dedi Hadian**[a] ✉ | **Senen Machmud**[a]

[a]Sekolah Tinggi Ilmu Ekonomi Pasundan, Bandung, Indonesia.

Abstract This study focuses on digitalization within the creative industry sector in Bandung, specifically examining how the use of green technology enhances performance output. This research investigates the role of curiosity in preparing human resources in the fashion creative industry to effectively utilize digital green technology and foster creativity to complete tasks and improve environmental conditions. To achieve this goal, the research employs a survey method in which data from 353 employees actively engaged in the creative industry are gathered. The analysis is conducted via covariance-based structural equation modeling (CB SEM), a robust statistical technique that allows for a nuanced understanding of the relationships among the variables involved. The findings of this study reveal a noteworthy and significant influence of curiosity on how employees perceive green technology. Additionally, the results highlight the vital role of creativity in shaping both task performance and the overall environmental impact of the industry. This research contributes novel insights to the existing body of literature by addressing the previously limited exploration of perceptions surrounding green technology and their subsequent effects on both performance and environmental outcomes in the fashion sector. By focusing on these aspects, this study fills a gap in understanding how curiosity and creativity can drive the effective use of green technology in a rapidly evolving industry. The implications of the findings are profound, emphasizing that a synergistic combination of green technology, creativity, and task performance is essential for achieving improved environmental outcomes. Organizations in the fashion creative industry are encouraged to cultivate a culture that nurtures curiosity and creativity among employees. By doing so, they can not only enhance their operational efficiency but also contribute positively to environmental sustainability. This research ultimately underscores the importance of integrating innovative technologies with a creative mindset to foster a more sustainable future within the industry.

Keywords: curiosity, perceptions, green, technology, creativity, environmental

1. Introduction

The progression of technological development has demonstrated a growing trajectory, and its application within daily life can streamline problem-solving processes. (Myovella et al., 2020; Li et al., 2020; Vu et al., 2020) Employing technological innovations can facilitate the creation of superior products, enhance the functionalities of existing products, develop novel components, and generate knowledge-based goods and services. (Giones & Brem, 2017; Srinivasan & Venkatraman, 2018; Song, 2019) The challenge of bolstering Indonesia's knowledge-based economic competitiveness necessitates collaboration among various stakeholders, particularly given that the country's current ranking within the global economic index remains suboptimal, thereby requiring targeted skill enhancement. Consequently, evaluating the ability of human resources within the creative fashion industry to leverage advancements in green technology, which can support task execution and environmental sustainability, is imperative. The Bandung Cultural and Tourism Office has identified deficiencies in the utilization of technology, especially green technology, and the development of human resources in the creative economy continues to be inadequate. The integration of green technology and creativity is essential for individuals in accomplishing tasks and addressing environmental concerns, driven by their innate curiosity. To effectively utilize green technology and individual creativity, fostering curiosity in information-seeking behavior must be prioritized and enhanced. It has been observed that curiosity can improve readiness to utilize technology and creativity to perform tasks and responsibilities optimally, thereby positively influencing organizational performance and environmental sustainability.

The knowledge economy depends on the efficient and effective utilization of technology as a catalyst for innovation, establishing the foundation for prosperity and generating wealth within the knowledge sector. (Srinivasan & Venkatraman,

 Received: October 5, 2025 | Accepted: December 18, 2025

2018; Nambisan, 2017; Sussan & Acs, 2017) Digitalization has expedited processes and diminished operational barriers for organizations, thereby expanding customer bases, securing financial support, promoting rapid growth, and facilitating flexible and productive work practices. (Björkdahl, 2020; Giones & Brem, 2017; Song, 2019) Furthermore, the deployment of green technology supports environmental sustainability, offers economic benefits, and enhances the corporate brand image. (Hao et al., 2023; Guinot et al., 2022; Wan et al., 2022; Zhang et al., 2020)

Companies must adopt creative and innovative thinking approaches to generate new ideas, recognize market shortcomings, identify opportunities, seize those opportunities, and create added value. The readiness to employ green technology and creativity, driven by curiosity, forms the foundation of intellectual capacity, knowledge, problem-solving interest, and a conducive environment. (Acikgoz et al., 2023; El-Kassar et al., 2022; Koutstaal et al., 2022) Creativity underpins innovation by enabling the exploitation of emerging opportunities resulting from environmental changes. This process necessitates collective and creative efforts to foster innovation, ultimately contributing to sustainable environments. (Thuyen & Bich, 2024; Tu & Wu, 2021; Zhang et al., 2020)

Research findings by Venkatesh et al. (2022) indicate that technology serves as a supportive tool for communication with consumers. The results of Adebanjo et al. (2021) and Flores et al. (2020) demonstrate that the dimension of human capital readiness is recognized as the most crucial factor in implementing Industry 4.0 technologies. One important factor for achieving success in the creative fashion industry involves collaborating with suppliers and startups to generate innovation, while effectively using information systems plays a vital role in decision-making, planning, and managing human resources in the fashion industry. (Albors-Garrigos, 2020; Casciani et al., 2022; Huynh, 2022)

Further findings by Dissanayake & Weerasinghe (2022) and Park-Poaps et al. (2021) demonstrate that in the era of Industry 4.0, technological advancements, such as hyperpersonalization, environmental sustainability, and productivity enhancement, can address critical challenges within the fashion industry. This underscores that the adoption of technology has emerged as a pivotal factor in the fashion sector, encompassing 3D design and modeling, digital technology, e-commerce, and digital platforms. Furthermore, research by Wang & Zhang (2023), Watat & Bonaretti (2022), and Wijewardhana et al. (2021) indicates that curiosity serves as an indicator capable of enhancing preparedness for technology utilization. Similarly, studies suggest that curiosity can influence individual creativity within organizational settings.

Research findings also indicate that technological advancements foster opportunities for innovation across various sectors of the fashion industry. Nevertheless, numerous SMEs in Indonesia are inadequately prepared in terms of possessing skilled human resources in information technology and facing infrastructural deficiencies, such as inadequate networks and internet connectivity. Furthermore, the instability of communication networks and the limitations inherent in telecommunications infrastructure present substantial challenges. (Sun et al., 2020; Tønnessen et al., 2021; Wang & Hu, 2020).

Previous studies have not yet explored the impact of curiosity on technology readiness and creativity, as well as its implications for improving employee performance within the creative fashion industry.

2. Materials and methods

This research employs a survey approach that focuses on the creative fashion industry in Bandung. According to data from the Bandung Cultural and Tourism Office, there are 530 business operators in this field. Employees who have worked for at least one year at companies operating in the fashion sector in Bandung will be selected as respondents via simple random sampling techniques. To meet the model specification test requirements, a minimum of 300 data points from employees in the creative fashion industry in Bandung are necessary.

In this research, the instrument design involves adapting existing validated scales from previous studies to ensure reliability and relevance to the research variables. Using instruments that have previously undergone validation helps maintain consistency and accuracy in measuring the constructs related to digital leadership, psychological capital, and creativity. The validation process includes a pilot study to test the adapted instrument on a smaller sample, allowing for adjustments on the basis of feedback and testing for clarity and comprehension. This step ensures that the final instrument is robust and suitable for the main data collection. Another consideration is that self-reports often capture subjective perceptions rather than objective measures. As a result, the findings may reflect personal opinions rather than universally applicable behaviors, limiting generalizability. Self-reported measures may not fully encompass the dynamics of digital leadership and psychological capital as experienced in real-world settings, which could impact the overall understanding of their relationship with creativity and task performance. With respect to ethical procedures, the research adhered to strict ethical considerations. Prior to conducting the survey, the author clearly communicated that respondents' identities would be kept confidential and that their information would only be used for research purposes. This commitment to ethical standards enhances the credibility of the research while protecting the participants involved.

The study employs data from 353 respondents, encompassing various pertinent demographic details, such as gender, age, educational attainment, and participation in subsectors of the creative industry, with particular emphasis on the fashion sector. Moreover, it documents the nature of the respondents' businesses and their length of employment within the industry. Table 1 shows the diverse characteristics of the respondents on the basis of the available demographic data.

The study utilizes data from 353 respondents, encompassing various relevant demographic information, such as respondents' gender, age, education level, and involvement in subsectors of the creative industry, particularly in fashion. Additionally, it records the type of business operated by respondents and their duration of employment in the industry. Table 1 presents the diverse characteristics of the respondents on the basis of the available demographic data.

For new methods and protocols, please provide a comprehensive description. Well-established methods can be briefly summarized and appropriately referenced.

Table 1 Characteristics of the respondents.

Personal Information	Category	Frequency	Percentage (%)
Gender	Male	199	56.37%
	Female	154	43.63%
Age	< 30 years	181	51.27%
	31 - 40 years	99	28.05%
	> 40 years	73	20.68%
Education Level	High School	278	78.75%
	Diploma	71	20.11%
	Bachelor	4	1.13%
Work	< 3 years	115	32.58%
	4 - 6 years	95	26.91%
	7 - 10 years	127	35.98%
	> 10 years	16	4.53%
Unit	Fashion	196	55.52%
	Accessories	76	21.53%
	Footwear	81	22.95%

Table 1 shows the diverse characteristics of the respondents on the basis of various demographic factors. Among these respondents, females constitute 199 individuals, accounting for 56.37% of the total, whereas males constitute 154, accounting for 43.63%. In examining the age distribution, the largest cohort comprises individuals under 30 years of age, totaling 181 respondents, which represents 51.27% of the entire sample. The subsequent age group, those between 31 and 40 years, includes 99 respondents, constituting 28.05% of the total. Moreover, only 73, or 20.68%, of the individuals over 40 years of age were affected. The substantial proportion of female respondents and the concentration of younger individuals, particularly those under 30, indicate that the perspectives gathered in this research may predominantly reflect the views and experiences of a younger demographic.

The professional experience of the respondents revealed that 115 individuals, accounting for 32.58% of the sample, had less than three years of experience. An approximately equal subset includes 95 respondents, or 26.91%, who fall within the range of four to six years of experience. The predominant group comprises individuals with seven to ten years of experience, amounting to 127 individuals and accounting for 35.98% of the total respondents. Conversely, only 16 respondents, or 4.53%, had accumulated more than ten years of experience. This distribution suggests that a majority of the respondents possess relatively limited professional experience, with many having less than three years in their respective fields.

With respect to educational attainment, the data indicate that the majority of respondents, specifically 278 individuals or approximately 78.75%, have completed upper secondary education or high school. Conversely, a smaller segment, comprising 71 respondents or 20.11%, possesses a diploma. Moreover, only 4 individuals, accounting for 1.13%, have attained a bachelor's degree. From an educational standpoint, it is apparent that most respondents have completed high school, while the proportion of individuals with higher educational qualifications remains relatively small.

The work units indicate that the fashion sector is the most predominant sector, with 196 respondents representing 55.52% of the total. The accessories category includes 76 respondents, approximately 21.53%, whereas shoes are represented by 81 respondents, constituting 22.95%. Consequently, it can be inferred that the majority of respondents are employed within the fashion sector, which may reflect prevailing industry trends and preferences. The characteristics of these respondents suggest that they constitute a relatively young demographic, predominantly female, with limited work experience and a narrow range of educational backgrounds.

This research aims to investigate the influence of employee curiosity on the use of green technology and creativity, as well as its impact on task performance and the environment in the fashion industry. The study employs a quantitative approach with model verification to predict the relationships among curiosity, the use of green technology, and employee creativity in relation to task performance and environmental outcomes. For data analysis, the researcher will utilize techniques based on covariance-based structural equation modeling (CB SEM).

3. Results and Discussion

Before conducting the tests, we first perform data quality assessments by examining validity and reliability, as presented in Table 2 below:

Table 2 Results of Validity and Reliability Testing of the Research Instruments.

Variables	Item	Standard loading	Standard loading^2	Measurement error (1-Standard loading^2)	Const Reliability	Variance Extracted
Curiosity	CS2	0,6849	0,4691	0,5309		
	CS3	0,7419	0,5504	0,4496		
	CS4	0,7315	0,5351	0,4649	0,9000	0,5007
	CS5	0,7533	0,5675	0,4325		
	CE1	0,6876	0,4728	0,5272		
	CE2	0,6690	0,4476	0,5524		
	CE3	0,6557	0,4299	0,5701		
	CE4	0,6880	0,4733	0,5267		
	CE5	0,7487	0,5606	0,4394		
Green Technology	T1.1	0,8165	0,6667	0,3333		
	T1.2	0,8166	0,6668	0,3332		
	T1.3	0,8500	0,7225	0,2775		
	T1.4	0,8612	0,7417	0,2583		
	T2.1	0,8376	0,7016	0,2984		
	T2.2	0,6206	0,3851	0,6149		
	T2.3	0,7375	0,5439	0,4561	0,9320	0,6334
	T2.4	0,7995	0,6392	0,3608		
	T1.1	0,8165	0,6667	0,3333		
	T1.2	0,8166	0,6668	0,3332		
	T1.3	0,8500	0,7225	0,2775		
	T1.4	0,8612	0,7417	0,2583		
Creativity	CR1	0,8078	0,6525	0,3475		
	CR2	0,8114	0,6584	0,3416		
	CR3	0,7813	0,6104	0,3896		
	CR4	0,8341	0,6957	0,3043		
	CR5	0,8294	0,6879	0,3121		
	CR6	0,6927	0,4798	0,5202		
	CR7	0,8236	0,6783	0,3217	0,9613	0,6571
	CR8	0,7998	0,6397	0,3603		
	CR9	0,8507	0,7237	0,2763		
	CR10	0,8504	0,7232	0,2768		
	CR11	0,7926	0,6282	0,3718		
	CR12	0,8086	0,6538	0,3462		
Task Performance	TS1	0,8970	0,8046	0,1954		
	TS2	0,8755	0,7665	0,2335		
	TS3	0,8598	0,7393	0,2607	0,9416	0,7635
	TS4	0,9055	0,8199	0,1801		
	TS5	0,8291	0,6874	0,3126		
Environmental Performance	EP1	0,8100	0,6561	0,3439		
	EP2	0,7913	0,6262	0,3738		
	EP3	0,8781	0,7711	0,2289	0,9138	0,6801
	EP4	0,8714	0,7593	0,2407		
	EP5	0,7667	0,5878	0,4122		

The results of the validity and reliability calculations demonstrate that the AVE value surpasses 0.5 and that the reliability value is above 0.7, indicating that the assessments are both valid and reliable. The researcher subsequently evaluated the research model and obtained the results shown in Figure 1.

The goodness-of-fit results described above are based on the criteria established by Li (2016) and Wang & Rhemtulla (2021) within the framework of this research model, which includes the following:

The obtained RMSEA value is 0.0457. The RMSEA is one of the indices most commonly used to assess model fit. A value lower than 0.05 typically indicates that the model has a good fit. In this case, the value of 0.0457 demonstrates that this research model fits the observed data very well. The χ/df value is 1.7365. This ratio is used to evaluate whether the proposed model can adequately explain the data. A low χ^2 value indicates a good fit, whereas a χ/df ratio of less than 3 is considered to indicate a good fit. With a value of 1.7365, this model indicates a strong relationship between the model and the data, and it is not overly complex in terms of degrees of freedom. The NFI value is 0.9841. The NFI is an index that compares the proposed model with the null model. The NFI values range from 0 to 1, where higher values indicate better fit. With a value of 0.9841, this model shows a very good fit between the proposed model and the observed data.

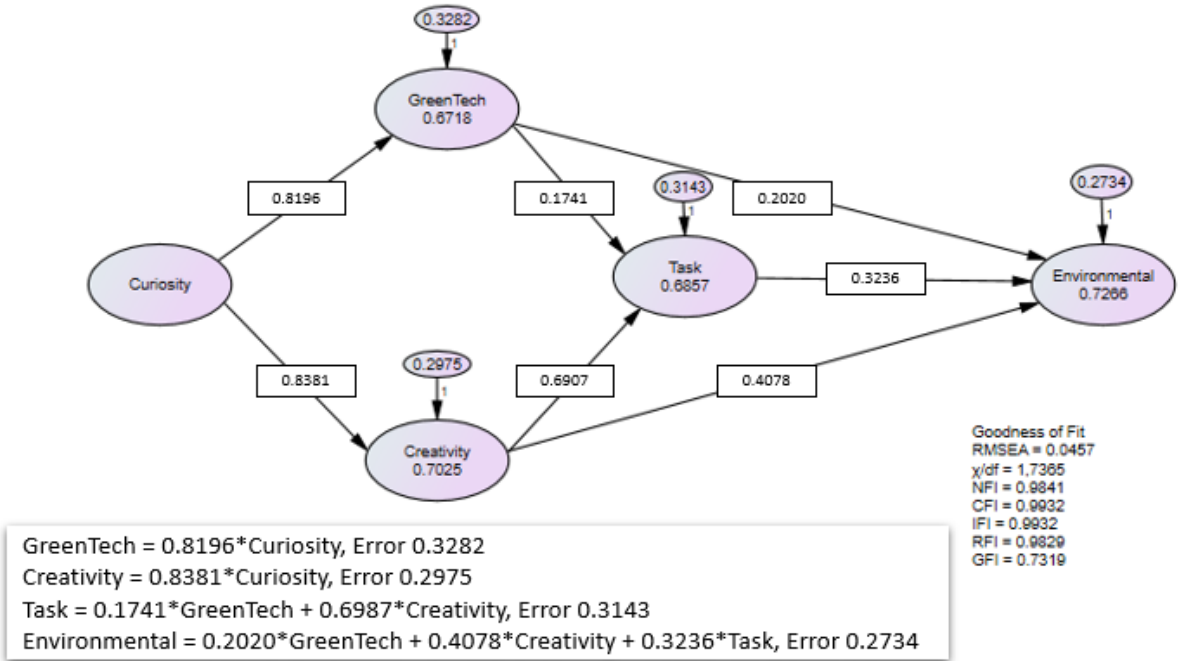

Figure 1 Results of the research model calculations, structural equations, and goodness of fit.

The CFI value is 0.9932. The CFI is another index that compares the proposed model with the null model. CFI also ranges from 0 to 1, and values above 0.90 are generally considered to indicate a good fit. With a value of 0.9932, this model demonstrates an excellent fit, approaching the maximum value, which indicates that the model can explain the variability of the data very well. The IFI value is 0.9932. The IFI is similar to the CFI, where higher values indicate better fit. With a value of 0.9932, this model shows a significant improvement in fit compared with the null model, suggesting that the proposed model can explain the data effectively. The RFI value is 0.9829. The RFI compares the proposed model with the null model while considering the number of parameters used. Higher RFI values indicate better fit. With a value of 0.9829, this model indicates a good fit between the proposed model and the observed data. The obtained GFI value is 0.7319. The GFI indicates the proportion of variance explained by the model. GFI values range from 0 to 1, where higher values indicate better fit. Although the value of 0.7319 shows that this model does not achieve a very high level of fit, it remains acceptable within the context of the research.

Overall, the results of the goodness-of-fit analysis utilizing the aforementioned criteria suggest that this research model has an excellent fit to the observed data, notwithstanding the fact that one index (GFI) has a comparatively lower value relative to the others.

The calculation results reveal the following structural equations: Green Technology = 0.8196 * Curiosity, Error = 0.3282. Creativity = 0.8381 * Curiosity, Error = 0.2975. Task performance = 0.1741 * GreenTech + 0.6987 * Creativity, Error = 0.3143. Environmental Performance = 0.2020 * GreenTech + 0.4078 * Creativity + 0.3236 * Task, Error 0.2734.

Furthermore, the overall influence, or R2, of the structural equations is as follows: Green technology = 0.6718 with an error of 0.3282; creativity = 0.7025 with an error of 0.2975; task performance = 0.6857 with an error of 0.3143; and environmental performance = 0.7266 with an error of 0.2734.

Within this model, a substantial relationship is observed wherein green technology is affected by curiosity, with a coefficient of 0.8196. This suggests that an increase in curiosity positively influences the perception of green technology development. Nonetheless, there exists an error term of 0.3282, signifying the variability that the model fails to elucidate.

The Creativity variable is also influenced by Curiosity, with a coefficient of 0.8381. This finding indicates that curiosity contributes not only to green technology but also to creativity. The error component associated with this relationship is 0.2975, indicating variability that warrants further investigation.

Task performance is affected by two primary factors: green technology and creativity. The coefficient for green technology stands at 0.1741, whereas that for creativity is 0.6987. This suggests that creativity exerts a more substantial influence on task performance than does green technology. Nevertheless, an error term of 0.3143 is recorded, indicating the presence of additional factors that may influence task performance but have not been captured within this model.

Environmental performance is influenced by three variables: green technology, creativity, and task performance. The coefficient for green technology is 0.2020, that for creativity is 0.4078, and that for task performance is 0.3236. These findings indicate that all these variables contribute to environmental performance, with creativity and task performance making

significant contributions. The error component for Environmental Performance is recorded at 0.2734, suggesting that while this model is quite good, other influencing factors still exist.

Next, we analyze the overall influence or R^2 of the established structural equations. R^2 indicates the proportion of variance in the dependent variable explained by the independent variables in the model. For Green Technology, the R^2 value is 0.6718, with an error of 0.3282. This suggests that approximately 67.18% of the variation in green technology is explained by curiosity. For creativity, the R^2 value is 0.7025, with an error of 0.2975, meaning that 70.25% of the variation in creativity is explained by curiosity. With respect to task performance, the R^2 value is 0.6857, with an error of 0.3143, indicating that 68.57% of the variation in task performance can be explained by green technology and creativity. For Environmental Performance, the R^2 value is 0.7266, with an error of 0.2734, indicating that 72.66% of the variation in environmental performance is explained by Green Technology, Creativity, and Task Performance.

Overall, the proposed research model demonstrates that curiosity significantly influences green technology and creativity, which subsequently affect task performance and environmental outcomes. Nevertheless, the discrepancies found in each relationship indicate that additional factors require further investigation to increase the model's precision. Research indicates that curiosity plays a critical role in the development of green technology, implying that heightened curiosity positively shapes perceptions of environmentally sustainable technology. For example, Shi et al. (2023) emphasize how consumer attitudes toward green energy technology can be influenced by complex interaction dynamics involving curiosity. Similarly, Chen et al. (2025) underscore the importance of curiosity in fostering creativity and innovation within the workplace. Elevated levels of curiosity motivate individuals to explore novel ideas, thereby accelerating the adoption of green technology. Furthermore, Xu et al. (2021) elucidate how industrial advancements such as Industry 4.0 and 5.0 relate to the comprehension and application of emerging technologies. This finding indicates that curiosity impacts not only individuals but also broader industrial processes, thereby supporting progress in green technology.

The research findings demonstrate that curiosity significantly influences creativity. This implies that curiosity not only contributes to the advancement of green technology but also plays a pivotal role in fostering individual creativity. The study by Tsai & Zheng (2021) elucidates how employee curiosity can serve as a conduit to creativity within service industries. When employees exhibit curiosity, they are more predisposed to explore novel ideas and innovate in their service delivery methods. Zada et al. (2023) further reported that, despite the common perception that curiosity may entail risks, it possesses the capacity to increase employee creativity. Curiosity motivates individuals to seek new information and solutions, thereby generating innovative ideas. Additionally, Chang et al. (2023) reported that curiosity in the professional environment is directly correlated with the creative performance of research and development professionals, including scientists and engineers. This suggests that the impact of curiosity can vary depending on the work context; however, curiosity remains a vital factor in promoting creativity. The present study affirms that curiosity is a fundamental driver not only of the progression of green technology but also of the enhancement of creativity across diverse disciplines.

The research findings indicate that task performance is governed by two principal factors: green technology and creativity. This suggests that an individual's task execution may be influenced by the degree to which they utilize environmentally friendly technology and their level of creativity in completing their duties. The study by Qian & Jiang (2024) explores how internet usage within the context of tasks can influence employees' creative output. They emphasize that perceived organizational support can bolster the relationship between technological adoption and creative performance, which subsequently impacts overall task effectiveness. Jiang et al. (2023) also examine how the employment of personal technology in the workplace can affect employees' job performance. They observe that integrating green technologies into work processes can improve efficiency and effectiveness, thereby contributing to enhanced task performance. Furthermore, research conducted by Wang et al. (2021) demonstrated that job stress and job satisfaction have a complex interplay with employee creativity. They discovered that the utilization of social media within teams can moderate this relationship, indicating that a work environment conducive to creativity can augment task performance.

Environmental performance is influenced by three principal variables: green technology, creativity, and task performance. This finding indicates that an organization's operations within an environmental context are markedly affected by the adoption of environmentally friendly technology, the level of employee creativity, and their efficacy in executing tasks. A study conducted by Muñoz-Pascual et al. (2021) demonstrated that sustainable product innovation in SMEs is significantly shaped by human resources and employee creativity. Creativity functions as a crucial intermediary in enhancing sustainable innovation performance, which subsequently contributes to improved environmental performance.

Yavuz et al. (2023) elucidated the influence of Industry 4.0 technology and sustainable operational practices on sustainable performance. They underscore that the integration of green technology in production processes not only enhances efficiency but also assists enterprises in attaining superior environmental objectives. Concurrently, Ahmed et al. (2023) demonstrated that green innovation is integral to improving both environmental and organizational performance. The study further indicates that human resource practices and management commitment serve as moderating factors within this relationship, emphasizing that internal support is essential for optimal environmental outcomes. This investigation affirms that the synergistic effect of green technology, innovation, and task performance is fundamental to achieving enhanced environmental performance.

When employees exhibit curiosity, they tend to explore new ideas, technologies, and methods. This exploration fosters innovation, leading to the development of creative solutions that can drive the adoption of green technologies. Curious employees are more likely to engage in continuous learning. They seek out information and new experiences that can enhance their skills, making them more adaptable to changes in the industry. This adaptability is crucial, especially in sectors that are rapidly evolving due to technological advancements and sustainability challenges. Furthermore, curiosity enhances collaboration among team members. When individuals share their inquisitiveness, they stimulate discussions that can lead to brainstorming and the exchange of diverse perspectives. This collaborative environment promotes a sense of community, encouraging employees to work together toward common sustainability goals. Employees who are encouraged to ask questions and explore new avenues often experience a greater sense of purpose in their roles. This satisfaction can translate into improved task performance, as motivated employees are likely to be more productive and dedicated to their work. Fostering employee curiosity not only encourages innovation and creativity but also contributes to enhanced performance and a positive workplace culture, ultimately benefiting the organization's sustainability initiatives and environmental outcomes.

The theoretical implications of fostering employee curiosity within HR management expand the literature on motivation and engagement by highlighting curiosity as a critical driver of innovation. Curiosity shifts traditional HR practices toward a more dynamic and flexible model. This suggests that HR frameworks should include strategies that nurture curiosity, which may lead to new theories concerning employee development, learning agility, and adaptability in changing environments. The emphasis on curiosity can encourage interdisciplinary research, bridging HR with fields such as psychology, organizational behavior, and educational theory.

HR management in the creative industry can have significant implications for fostering curiosity to drive green technology and creativity. First, managers should create a work culture that encourages exploration and innovation. They can achieve this by giving employees the freedom to experiment and propose new ideas, particularly those focused on sustainability. Second, training and skill development play crucial roles. Offering training on green technology and sustainable practices enhances employees' knowledge. This not only boosts creativity but also improves overall task performance. Next, organizations need to implement recognition systems that reward employees who innovate via green technology. This motivates more individuals to contribute to sustainability initiatives, leading to positive environmental impacts. Finally, establishing monitoring and evaluation systems that focus on environmental outcomes is essential. Regularly measuring the impact of green innovations and creativity helps companies understand the effectiveness of their strategies and make necessary adjustments. HR management can stimulate creativity and sustainability while enhancing task performance and environmental outcomes in the creative industry.

4. Conclusions

This study effectively highlights the significant role of digitalization and green technology within the creative industry sector in Bandung. Research has demonstrated that curiosity among employees plays a crucial role in shaping their perceptions of green technology, which in turn influences their creativity and task performance. The findings suggest that fostering curiosity can lead to improved environmental outcomes, emphasizing the importance of integrating innovative technologies with a creative approach in the fashion industry.

Nevertheless, this research has certain limitations. The study predominantly concentrates on a specific geographical region, which may restrict the applicability of the findings to other areas or sectors. Furthermore, reliance on self-reported data could introduce biases that might impact the accuracy of the results.

For future research, it is advisable to broaden the scope of the study by incorporating a more diverse sample from multiple regions and sectors within the creative industry. This approach would facilitate a more comprehensive understanding of how perceptions of green technology and creativity interact across various contexts. Additionally, longitudinal studies could prove advantageous in assessing the long-term effects of curiosity and green technology on performance and environmental impact. Addressing these gaps will enable future research to contribute to a more thorough understanding of the factors influencing sustainability in the creative industry.

Acknowledgment

The author would like to express his gratitude for the support from the Ministry of Education and Science and Technology and the respondents and parties who contributed to this research.

5. Declarations

5.1. Ethical considerations

To ensure the anonymity of the participants, all the gathered data were encrypted and kept confidential, with no personal identifying details associated with their answers. Additionally, written consent was obtained from each participant after they were thoroughly informed about the research goals and their rights as contributors.

5.2. Use of artificial intelligence (AI)

The authors declare that no generative artificial intelligence (AI) tools were used in the preparation, analysis, or writing of this manuscript.

5.3. Conflict of Interest

All the authors declare that they have no conflicts of interest.

5.4. Funding

This research was funded by Ministry of Education, Science and Technology, grant number: 125/C3/DT.05.00/PL/2025 and derivative Number: 8039/LL4/PG/2025.

References

Abdul Hamid, R. (2022). The role of employees' technology readiness, job meaningfulness and proactive personality in adaptive performance. *Sustainability, 14*(23), 15696. https://doi.org/10.3390/su142315696

Acikgoz, F., Elwalda, A., & De Oliveira, M. J. (2023). Curiosity on cutting-edge technology via theory of planned behavior and diffusion of innovation theory. *International Journal of Information Management Data Insights, 3*(1), 100152. https://doi.org/10.1016/j.jjimei.2022.100152

Adebanjo, D., Laosirihongthong, T., Samaranayake, P., & Teh, P. L. (2021). Key enablers of industry 4.0 development at firm level: Findings from an emerging economy. *IEEE Transactions on Engineering Management, 70*(2), 400-416. https://doi.org/10.1109/TEM.2020.3046764

Afsar, B., & Umrani, W. A. (2020). Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity and innovation climate. *European Journal of Innovation Management, 23*(3), 402-428. https://doi.org/10.1108/EJIM-12-2018-0257

Ahmad, S., Miskon, S., Alabdan, R., & Tlili, I. (2020). Towards sustainable textile and apparel industry: Exploring the role of business intelligence systems in the era of industry 4.0. *Sustainability, 12*(7), 2632. https://doi.org/10.3390/su12072632

Ahmed, R. R., Akbar, W., Aijaz, M., Channar, Z. A., Ahmed, F., & Parmar, V. (2023). The role of green innovation on environmental and organizational performance: Moderation of human resource practices and management commitment. *Heliyon, 9*(1). https://doi.org/10.1016/j.heliyon.2022.e12679

Albors-Garrigos, J. (2020). Barriers and enablers for innovation in the retail sector: Co-innovating with the customer. A case study in grocery retailing. *Journal of Retailing and Consumer Services, 55*, 102077. https://doi.org/10.1016/j.jretconser.2020.102077

AlEssa, H. S., & Durugbo, C. M. (2022). Systematic review of innovative work behavior concepts and contributions. *Management Review Quarterly, 72*(4), 1171-1208. https://doi.org/10.1007/s11301-021-00224-x

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management, 40*(5), 1297-1333. https://doi.org/10.1177/0149206314527128

Björkdahl, J. (2020). Strategies for digitalization in manufacturing firms. *California management review, 62*(4), 17-36. https://doi.org/10.1177/0008125620920349

Casciani, D., Chkanikova, O., & Pal, R. (2022). Exploring the nature of digital transformation in the fashion industry: opportunities for supply chains, business models, and sustainability-oriented innovations. *Sustainability: Science, Practice and Policy, 18*(1), 773-795. https://doi.org/10.1080/15487733.2022.2125640

Castañeda-Navarrete, J., Hauge, J., & López-Gómez, C. (2021). COVID-19's impacts on global value chains, as seen in the apparel industry. *Development Policy Review, 39*(6), 953-970. https://doi.org/10.1111/dpr.12539

Chang, Y. Y., Shih, H. Y., & Lin, B. W. (2023). Work curiosity and R&D professionals' creative performance: Scientists vs. engineers. *Technovation, 124*, 102739. https://doi.org/10.1016/j.technovation.2023.102739

Chen, H. Y., Chang, Y. Y., & Yang, Y. J. (2025). How does work curiosity affect employees' creativity and innovation: Do task characteristics matter?. *Technovation, 146*, 103288. https://doi.org/10.1016/j.technovation.2025.103288

Dissanayake, D. G. K., & Weerasinghe, D. (2022). Towards circular economy in fashion: Review of strategies, barriers and enablers. *Circular Economy and Sustainability, 2*(1), 25-45. https://doi.org/10.1007/s43615-021-00090-5

Dumitru, D., & Halpern, D. F. (2023). Critical thinking: Creating job-proof skills for the future of work. *Journal of Intelligence, 11*(10), 194. https://doi.org/10.3390/jintelligence11100194

El-Kassar, A. N., Dagher, G. K., Lythreatis, S., & Azakir, M. (2022). Antecedents and consequences of knowledge hiding: The roles of HR practices, organizational support for creativity, creativity, innovative work behavior, and task performance. *Journal of Business Research, 140*, 1-10. https://doi.org/10.1016/j.jbusres.2021.11.079

Flores, E., Xu, X., & Lu, Y. (2020). Human Capital 4.0: a workforce competence typology for Industry 4.0. *Journal of Manufacturing Technology Management, 31*(4), 687-703. https://doi.org/10.1108/JMTM-08-2019-0309

Giones, F., & Brem, A. (2017). Digital technology entrepreneurship: A definition and research agenda. *Technology innovation management review, 7*(5), 44-51. http://timreview.ca/article/1076

Gouvea, R., Kapelianis, D., Montoya, M. J. R., & Vora, G. (2021). The creative economy, innovation and entrepreneurship: an empirical examination. *Creative industries journal, 14*(1), 23-62. https://doi.org/10.1080/17510694.2020.1744215

Grošelj, M., Černe, M., Penger, S., & Grah, B. (2021). Authentic and transformational leadership and innovative work behaviour: the moderating role of psychological empowerment. *European Journal of Innovation Management, 24*(3), 677-706. https://doi.org/10.1108/EJIM-10-2019-0294

Gross, M. E., Zedelius, C. M., & Schooler, J. W. (2020). Cultivating an understanding of curiosity as a seed for creativity. *Current Opinion in Behavioral Sciences, 35,* 77-82. https://doi.org/10.1016/j.cobeha.2020.07.015

Guinot, J., Barghouti, Z., & Chiva, R. (2022). Understanding green innovation: A conceptual framework. *Sustainability, 14*(10), 5787. https://doi.org/10.3390/su14105787

Hao, X., Wen, S., Sun, Q., Irfan, M., Wu, H., & Hao, Y. (2023). How does the target of green innovation for cleaner production change in management process? Quality targeting and link targeting. *Journal of Environmental Management, 345*, 118832. https://doi.org/10.1016/j.jenvman.2023.118832

Hoque, M. A., Rasiah, R., Furuoka, F., & Kumar, S. (2021). Technology adoption in the apparel industry: insight from literature review and research directions. *Research Journal of Textile and Apparel, 25*(3), 292-307. https://doi.org/10.1108/RJTA-08-2020-0090

Huynh, P. H. (2022). Enabling circular business models in the fashion industry: The role of digital innovation. *International Journal of Productivity and Performance Management, 71*(3), 870-895. https://doi.org/10.1108/IJPPM-12-2020-0683

Jiang, H., Siponen, M., & Tsohou, A. (2023). Personal use of technology at work: a literature review and a theoretical model for understanding how it affects employee job performance. *European Journal of Information Systems, 32*(2), 331-345. https://doi.org/10.1080/0960085X.2021.1963193

Jin, B. E., & Shin, D. C. (2021). The power of 4th industrial revolution in the fashion industry: what, why, and how has the industry changed?. *Fashion and Textiles, 8*(1), 31. https://doi.org/10.1186/s40691-021-00259-4

Koutstaal, W., Kedrick, K., & Gonzalez-Brito, J. (2022). Capturing, clarifying, and consolidating the curiosity-creativity connection. *Scientific reports, 12*(1), 15300. https://doi.org/10.1038/s41598-022-19694-4

Lee, A., Legood, A., Hughes, D., Tian, A. W., Newman, A., & Knight, C. (2020). Leadership, creativity and innovation: A meta-analytic review. *European Journal of Work and Organizational Psychology, 29*(1), 1-35. https://doi.org/10.1080/1359432X.2019.1661837

Li, C. H. (2016). The performance of ML, DWLS, and ULS estimation with robust corrections in structural equation models with ordinal variables. *Psychological methods, 21*(3), 369. https://doi.org/10.1037/met0000093

Li, Y., Dai, J., & Cui, L. (2020). The impact of digital technologies on economic and environmental performance in the context of industry 4.0: A moderated mediation model. *International Journal of Production Economics, 229*, 107777. https://doi.org/10.1016/j.ijpe.2020.107777

Lim, W. M. (2023). The workforce revolution: Reimagining work, workers, and workplaces for the future. *Global Business and Organizational Excellence, 42*(4), 5-10. https://doi.org/10.1002/joe.22218

Manik, E., Sidharta, I., Zulfikar, V. A., Rahman, R. S., Fitria, B. T., Resawati, R., & Nurdiansyah, H. (2023). Creativity: The impact of psychological capital and curiosity from the employee's perspective in Bandung, Indonesia. *International Journal of Management and Sustainability, 12*(2), 204-213. https://doi.org/10.18488/11.v12i2.3348

McQuillan, H. (2020). Digital 3D design as a tool for augmenting zero-waste fashion design practice. *International Journal of Fashion Design, Technology and Education, 13*(1), 89-100. https://doi.org/10.1080/17543266.2020.1737248

Muñoz-Pascual, L., Galende, J., & Curado, C. (2021). Contributions to sustainability in SMEs: Human resources, sustainable product innovation performance and the mediating role of employee creativity. *Sustainability, 13*(4), 2008. https://doi.org/10.3390/su13042008

Myovella, G., Karacuka, M., & Haucap, J. (2020). Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies. *Telecommunications policy, 44*(2), 101856. https://doi.org/10.1016/j.telpol.2019.101856

Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship theory and practice, 41*(6), 1029-1055. https://doi.org/10.1111/etap.12254

Park-Poaps, H., Bari, M. S., & Sarker, Z. W. (2021). Bangladeshi clothing manufacturers' technology adoption in the global free trade environment. *Journal of Fashion Marketing and Management: An International Journal, 25*(2), 354-370. https://doi.org/10.1108/JFMM-06-2020-0119

Qian, Y., & Jiang, H. (2024). The impacts of within-task and between-task personal Internet usage on employee creative performance: the moderating role of perceived organisational support. *Internet Research, 34(*5), 1521-1544. https://doi.org/10.1108/INTR-09-2022-0751

Sehnem, S., Troiani, L., Lara, A. C., Crizel, M. G., Carvalho, L., & Rodrigues, V. P. (2023). Sustainable fashion: challenges and barriers for advancing the circular economy. *Environment, Development and Sustainability, 26*, 4097–4118.https://doi.org/10.1007/s10668-022-02872-9

Shi, Y. Y., Wei, Z. X., & Shahbaz, M. (2023). Analyzing the co-evolutionary dynamics of consumers' attitudes and green energy technologies based on a triple-helix model. *Renewable and Sustainable Energy Reviews, 171*, 113009. https://doi.org/10.1016/j.rser.2022.113009

Sidharta, I., Priadana, M. S., & Affandi, A. (2019). Innovative behavior: The study of intellectual capital effect on creative fashion industry in Bandung, Indonesia. *Problems and Perspectives in Management, 17*(4), 404-415.https://doi.org/10.21511/ppm.17(4).2019.33

Sidharta, I., Suherman, A. R., Najwa, H., Pramashela, M., & Astuti, R. Y. (2023). The Influence of Readiness to Use Technology and Creativity on Task Performance: Perspectives from the Fashion Creative Industry in Bandung City. *Jurnal Computech & Bisnis (e-journal), 17*(2), 84-96. https://doi.org/10.56447/jcb.v17i2.226

Song, A. K. (2019). The Digital Entrepreneurial Ecosystem—a critique and reconfiguration. *Small Business Economics, 53*(3), 569-590. https://doi.org/10.1007/s11187-019-00232-y

Srinivasan, A., & Venkatraman, N. (2018). Entrepreneurship in digital platforms: A network-centric view. *Strategic Entrepreneurship Journal, 12*(1), 54-71. https://doi.org/10.1002/sej.1272

Sun, L., & Zhao, L. (2017). Envisioning the era of 3D printing: a conceptual model for the fashion industry. *Fashion and Textiles, 4*(1), 25. https://doi.org/10.1186/s40691-017-0110-4

Sun, Y., Wang, C., & Jeyaraj, A. (2020). Enterprise social media affordances as enablers of knowledge transfer and creative performance: An empirical study. *Telematics and Informatics, 51*, 101402. https://doi.org/10.1016/j.tele.2020.101402

Sussan, F., & Acs, Z. J. (2017). The digital entrepreneurial ecosystem. *Small business economics, 49*(1), 55-73. https://doi.org/10.1007/s11187-017-9867-5

Thuyen, T. N., & Bich, L. N. (2024). Green innovation practices: A case study of Vietnamese manufacturing companies. *Cogent Business & Management*, *11*(1), 2333603. https://doi.org/10.1080/23311975.2024.2333603

Tønnessen, Ø., Dhir, A., & Flåten, B. T. (2021). Digital knowledge sharing and creative performance: Work from home during the COVID-19 pandemic. *Technological Forecasting and Social Change, 170*, 120866. https://doi.org/10.1016/j.techfore.2021.120866

Tsai, K. H., & Zheng, L. L. (2021). Bridging employee curiosity and service creativity: a new lens. *Journal of Service Theory and Practice, 31*(5), 821-844. https://doi.org/10.1108/JSTP-11-2020-0262

Tu, Y., & Wu, W. (2021). How does green innovation improve enterprises' competitive advantage? The role of organizational learning. *Sustainable Production and Consumption, 26*, 504-516. https://doi.org/10.1016/j.spc.2020.12.031

Venkatesh, V., Speier-Pero, C., Aljafari, R., & Bala, H. (2022). IT use and job outcomes: A longitudinal field study of technology contingencies. *Journal of the Association for Information Systems, 23*(5), 1184-1210. https://doi.org/10.17705/1jais.00760

Vu, K., Hanafizadeh, P., & Bohlin, E. (2020). ICT as a driver of economic growth: A survey of the literature and directions for future research. *Telecommunications policy, 44*(2), 101922. https://doi.org/10.1016/j.telpol.2020.101922

Wan, X., Wang, Y., Qiu, L., Zhang, K., & Zuo, J. (2022). Executive green investment vision, stakeholders' green innovation concerns and enterprise green innovation performance. *Frontiers in Environmental Science, 10*, 997865. https://doi.org/10.3389/fenvs.2022.997865

Wang, C., & Hu, Q. (2020). Knowledge sharing in supply chain networks: Effects of collaborative innovation activities and capability on innovation performance. *Technovation, 94*, 102010. https://doi.org/10.1016/j.technovation.2017.12.002

Wang, Y. A., & Rhemtulla, M. (2021). Power analysis for parameter estimation in structural equation modeling: A discussion and tutorial. *Advances in Methods and Practices in Psychological Science, 4*(1), 2515245920918253. https://doi.org/10.1177/251524592091825

Wang, Y., & Zhang, W. (2023). Factors Influencing the Adoption of Generative AI for Art Designing among Chinese Generation Z: A structural equation modeling approach. *Ieee Access, 11*, 143272-143284. https://doi.org/10.1109/ACCESS.2023.3342055

Wang, Y., Huang, Q., Davison, R. M., & Yang, F. (2021). Role stressors, job satisfaction, and employee creativity: The cross-level moderating role of social media use within teams. *Information & management, 58*(3), 103317. https://doi.org/10.1016/j.im.2020.103317

Watat, J. K., & Bonaretti, D. (2022). A Contextualization of the Technology Acceptance Model to Social Media Adoption Among University Students in Cameroon. *International Journal of Technology and Human Interaction (IJTHI), 18*(1), 1-18. https://doi.org/10.4018/IJTHI.297619

Wijewardhana, G. E. H., Weerabahu, S. K., Nanayakkara, J. L. D., & Samaranayake, P. (2021). New product development process in apparel industry using Industry 4.0 technologies. *International Journal of Productivity and Performance Management, 70*(8), 2352-2373. https://doi.org/10.1108/IJPPM-02-2020-0058

Xu, X., Lu, Y., Vogel-Heuser, B., & Wang, L. (2021). Industry 4.0 and Industry 5.0—Inception, conception and perception. *Journal of manufacturing systems, 61*, 530-535. https://doi.org/10.1016/j.jmsy.2021.10.006

Yavuz, O., Uner, M. M., Okumus, F., & Karatepe, O. M. (2023). Industry 4.0 technologies, sustainable operations practices and their impacts on sustainable performance. *Journal of Cleaner Production, 387*, 135951. https://doi.org/10.1016/j.jclepro.2023.135951

Zada, M., Khan, J., Saeed, I., Zada, S., & Jun, Z. Y. (2023). Curiosity may have killed the cat but it has the power to improve employee creativity. *Current Psychology, 42*(36), 32299-32313. https://doi.org/10.1007/s12144-022-04171-y

Zhang, G., Shi, Y., & Gale, C. (2021). Co-design: A novel approach to create value-added products in the creative fashion industry. *Journal of Textile Engineering and Fashion Technology, 7*(4), 134-141. https://doi.org/10.15406/jteft.2021.07.00280

Zhang, L., Zhao, S., Cui, L., & Wu, L. (2020). Exploring green innovation practices: Content analysis of the fortune global 500 companies. *Sage Open, 10*(1), 2158244020914640. https://doi.org/10.1177/2158244020914640

Zhang, Y., Sun, J., Yang, Z., & Wang, Y. (2020). Critical success factors of green innovation: Technology, organization and environment readiness. *Journal of cleaner production, 264*, 121701. https://doi.org/10.1016/j.jclepro.2020.121701