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Impact of Modern Technologies and Artificial Intelligence Responsible Employees: Risks and Solutions

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تأثير التقنيات الحديثة والذكاء الاصطناعي على الموظفين المسؤولين: المخاطر والحلول

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Abstract:

The utilization of Modern Technology (MT) and Artificial Intelligence (AI) revolutionized the administration and execution of jobs, giving employees greater autonomy in their tasks and responsibilities and access to work resources. Despite all these advantages, there are potential drawbacks concerning health and work productivity. This research is qualitative with a quantitative survey to study the impact of MT and AI on the psychological stress levels of Responsible Employees (RE). The research study will include interviews to fill out questionnaires with RE, in addition to analyzing previous research studies to collect data and draw meaningful conclusions to provide a comprehensive understanding of the topic and suggest solutions to address the reasons for the psychological stresses faced by RE who are using the MT and AI, which may lead to psychological problems for this segment of employees It affects job performance negatively. As a result, organizations and corporate HR departments, in light of the current digital transformation, can benefit from the findings and suggestions made in this paper when creating management plans that will lower psychological stress and boost worker productivity.

Keywords: Modern Technology, AI, Employment Stress, Responsible Employee, Psychological Stress

الملخص

لقد أحدث استخدام التكنولوجيا الحديثة (MT) والذكاء الاصطناعي (AI) ثورة في إدارة وتنفيذ العمل، مما يوفر للموظفين قدرًا أكبر من الاستقلالية في مسؤولياتهم الوظيفية والوصول إلى المعلومات والموارد التقنية. ومع كل هذه المزايا هناك عيوب محتملة تتعلق بالصحة وإنتاجية العمل. يهدف هذا البحث النوعي إلى دراسة تأثير التكنولوجيا الحديثة والذكاء الاصطناعي على مستويات الضغط النفسي للموظفين المسؤولين (RE). وستتضمن الدراسة البحثية مقابلات وملاء استبيانات مع الموظفين المسؤولين، بالإضافة إلى القيام بتحليل لدراسات بحثية سابقة وذلك لجمع البيانات واستخلاص استنتاجات ذات معنى لتوفير فهم شامل للموضوع واقتراح حلول لمعالجة الضغوط النفسية التي يواجهها الموظفون المسؤولون الذين يعانون من الاستخدام المفرط لتكنولوجيا الحديثة والذكاء الاصطناعي، مما قد يؤدي إلى ضغوط مهنية ومشاكل نفسية لهذه الشريحة من الموظفين. من خلال هذه الدراسة ستكون هناك نتائج مفيدة للمؤسسات تساهم في تطوير استراتيجيات العمل للتخفيف من التأثير السلبي على رفاهية الموظفين وإنتاجيتهم في عصر التحول الرقمي.

الكلمات المفتاحية: التكنولوجيا الحديثة، الذكاء الاصطناعي، الضغوط الوظيفية، الموظف المسؤول، الضغوط النفسية.

Introduction

Despite the technological developments that assist in performing tasks and work, employees are considered the cornerstone of workforce productivity in various organizational settings. Where the influence of MT on employees has been a good subject of research, revealing a dual impact characterized by both favourable and adverse outcomes within the workplace. Where MT and AI have been shown to enhance productivity, quality, and time efficiency, they are also associated with potential drawbacks such as heightened conflict between work responsibilities and personal life, increased psychological stress, and a lack of managerial and task performance [1-2-3-4]. Accordingly, these factors can contribute to employee fatigue, absenteeism, and a sense of disillusionment [5-6-7]. In the last four years, the use of AI and its applications in the workplace has begun increasingly, whereas institutions, companies, and factories use AI to automate tasks [8] to improve the decision-making process and raise the level of work quality. Furthermore, improves customer service. on the other hand, the studies indicate there are concerns that this could also lead to job displacement and a loss of self-efficacy among employees [9-10-11-12]. Therefore, risk factors may increase and contribute to increased job stress and decreased job satisfaction among employees and responsible administrators [13].

The impact of MT and AI on employee well-being and productivity is a topic of increasing importance and a key issue for organizations and decision-makers [14-15-16]. The author addressed this side with in-depth research in e-management, sociology, and business psychology, focusing on the impact of the use of technologies on employees on these sides because handling MT and AI incorrectly may lead to health problems and family separation for their users. Consequently, the goal of this paper is to clarify the influential risk factors resulting from the use of modern technology and artificial intelligence applications on the RE and propose effective solutions to reduce these risks by creating supportive work environments and implementing administratively regulated policies to encourage using MT and AI for promoting productivity and work satisfaction among the staff.

Background of the study

The widespread adoption of AI applications and MT tools in modern work settings has brought numerous benefits alongside potential hazards to employees' mental health. Consequentially, the integration of MT and AI in the workplace has been associated with increased stress as well as depression among employees [17-18-19]. The threat of job automation resulting from AI advancements can negatively impact employee health, therefore leading to increased depression and negative emotions. Furthermore, the displacement of jobs by AI may result in significant unemployment [20-21]. The development of AI is also likely to occasionally influence the evaluation of employees in their roles, leading to negative impact effects [22]. The perception of AI offering opportunities for individuals to showcase their work skills and presence can prompt the application of problem-oriented coping strategies, leading to positive outcomes such as the creation of new job opportunities and increased income for management and skilled positions [23-24]. Conversely, when employees view AI as a threat to their job security and income, they may resort to emotion-oriented coping mechanisms, resulting in negative consequences like job burnout and disappointment, in addition to reduced control over work processes [25-26-27].

An online survey was conducted about the effects of stress on the ability of employees to do their work, with risk factors associated with greater use of MT for work. The investigations of the survey found that among the factors causing the risks of working with MT (distributed teamwork, mobile working, constant availability, and inefficient technical support), all are associated with increased job stress and demands. Furthermore, distributed teamwork and ineffective technical support were associated with decreased work-related resources. The study also found that leadership can mitigate the potential effects of work stress [28-29].

Regarding poor mental health in workplace settings, a study was applied to employees in the technology industry. The results stated that employees are vulnerable to health and psychological issues as a result of constant physical and mental stress. Another study conducted a systematic review and found that work demands related to the use of MT, including workload, role ambiguity, emotional burden, overload, lack of independence, and social support, are associated with indicators of technology overuse [30-31-32].

Scope of the study

The scope of this study encompassed a thorough examination of the literature and questionnaire inquiries centered on a range of factors, including the utilization of MT, AI, and work-related stress. Moreover, the extent to which employees, particularly those in responsible positions, experience time loss or inefficiency at work. These factors were specifically chosen due to their relevance to the field of work psychology. The study narrowed its focus to specific issues related to these particular aspects to derive meaningful conclusions from the collected data.

Research methodology

This research study adopted quantitative and qualitative research methodologies that involved systematically reviewing empirical literature from reputable academic databases widely accepted by the researcher as the basis for collecting data, as well as making a simple questionnaire focused on the opinions of the employees of the Libyan Automobile and Touring Club (LATC) to collect data about the subject of the research study. Given that the LATC is one of the members of both the International Automobile Federation (FIA) and the International Tourism Alliance (AIT), its administration relies on the use of the MT at work and correspondence with its branches and international federations around the world.

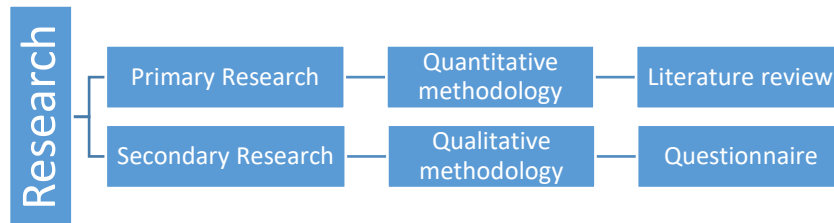


Figure 1: Methods used to collect data for the research.

Research methods

The author obtained a comprehensive collection containing 282 research papers after conducting an extensive literature review of the subject of the study from reputable journals selected and catalogued in renowned scientific databases, namely PubMed, ISI Web of Knowledge, and Scopus. By methodically scrutinizing these authoritative sources, the researcher ensured the inclusion of high-quality and credible literature to enhance the validity of the research. To ensure the accuracy of the data, the duplicate studies were removed to sustain up to 160 unique papers eligible for further analysis. To refine the selection process, the remaining papers were chosen through a meticulous evaluation of their titles, abstracts, and research results. This methodological approach, aligned with the study's objectives, led to the exclusion of 103 papers that did not align with the pertinent topics under investigation. Subsequently, the subsequent phase involved a comprehensive review of the complete texts of the remaining 57 papers that successfully passed the initial screening process. Accordingly, additional ineffective papers were excluded, leaving only those that satisfied specific criteria, such as literature reviews, validation studies for questionnaires or methodologies, and other pertinent titles. Based on that, there will be 32 suitable papers at this stage for inclusion in the reference list.

As a second part of the study, the researcher wanted to enhance the study with a simple questionnaire containing 19 questions. Participation in the investigation was restricted to LATC employees who held a responsible position or had at least 5 years of experience working on condition the participant should be married. The participants were informed about the aim of the survey during the interview for transparency and professionalism. Through this procedure the selected sample of 32 employees. The average of participants age was 45 years including 81.2% (26/32) males and 18.7% females (6/32) as illustrated in Figure 2. Additionally, 100% (32/32) received a higher educational qualification.

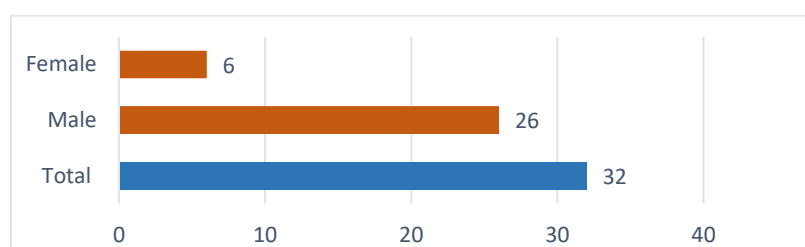


Figure 2: Gender distribution.

The RE should work at a place for at least 28 hours according to the official work time in the LATC weekly with some exceptions for employees depending on conditions of work. therefore, 37.5% (12/32) took their work home

or followed up on correspondence and news related to the FIA. Concerning hours worked are shown in Figure 3,4.

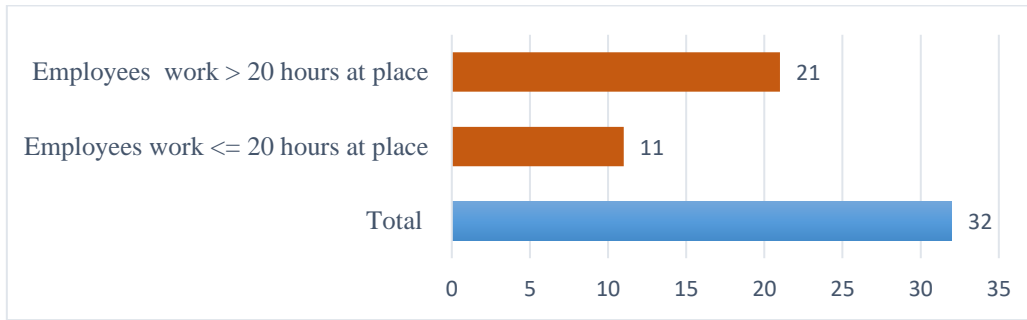


Figure 3: Employees hours work weekly.

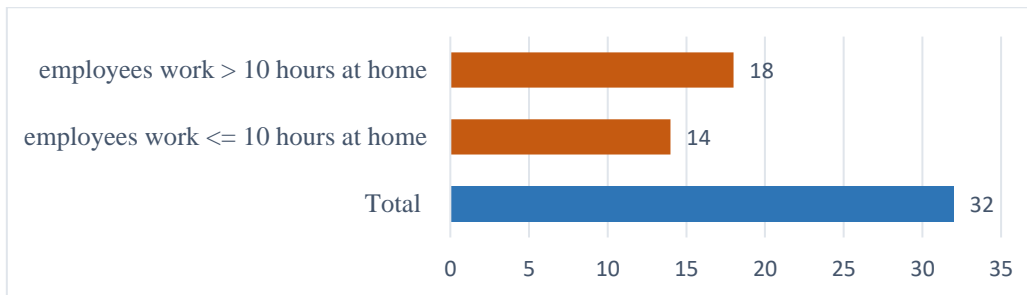


Figure 4: Employees hours work weekly.

Here is an explanation of the answers of questions that were included in a study population questionnaire that was clear for participants, as shown in Table 2 and Figures 5, 6, 7, 8.

Table 1: Questionnaire Analysis

The meaning of the question	Employees selected Yes	Percentage
The MT is important in their work.	32	100%
The MT and AI applications helped increase the workload.	19	59.3%
Employees agreed that MT and AI improving their job performance.	29	90.6%
Employees use MT in order to work outside official working hours.	23	71.8%
Employees who feel stressed or overwhelmed by the amount of information they have to deal with at work.	18	56.2%
Employees who believe that the use of electronic gadgets, social media, and email contributes to your work-related stress	26	81.2%
Employees who feel that working during non-traditional hours affects their ability to rest and have leisure time	30	93.7%
Employees who have received training related to the correct handling of MT and managing information overload and distractions caused by technology in the workplace.	4	12.5%

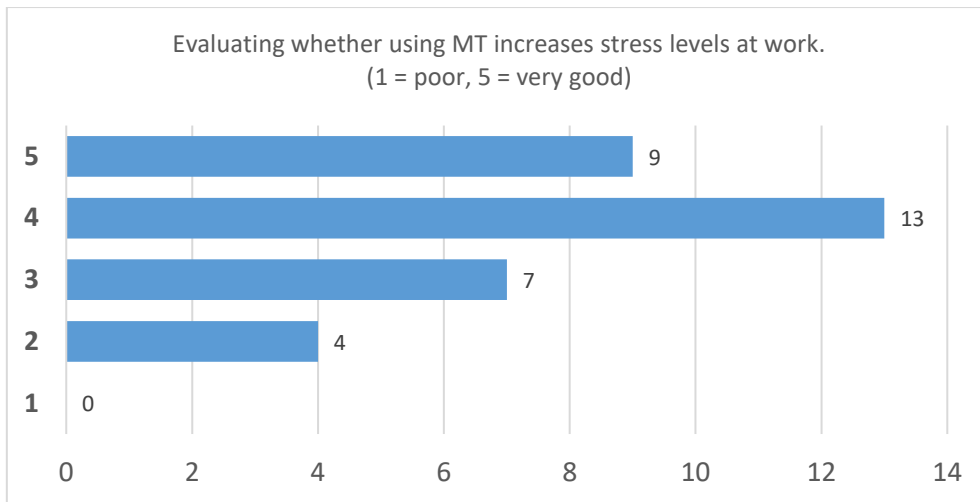


Figure 5: Questionnaire Analysis

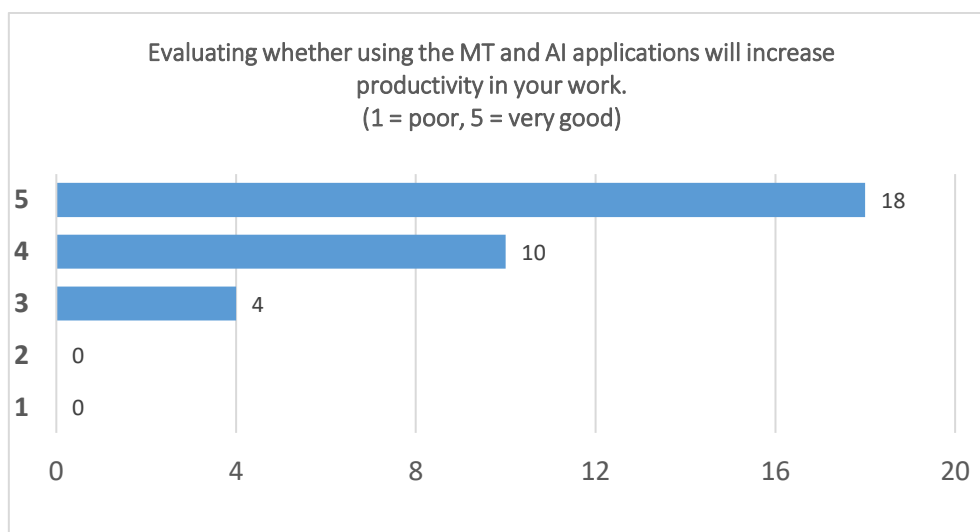


Figure 6: Questionnaire Analysis.

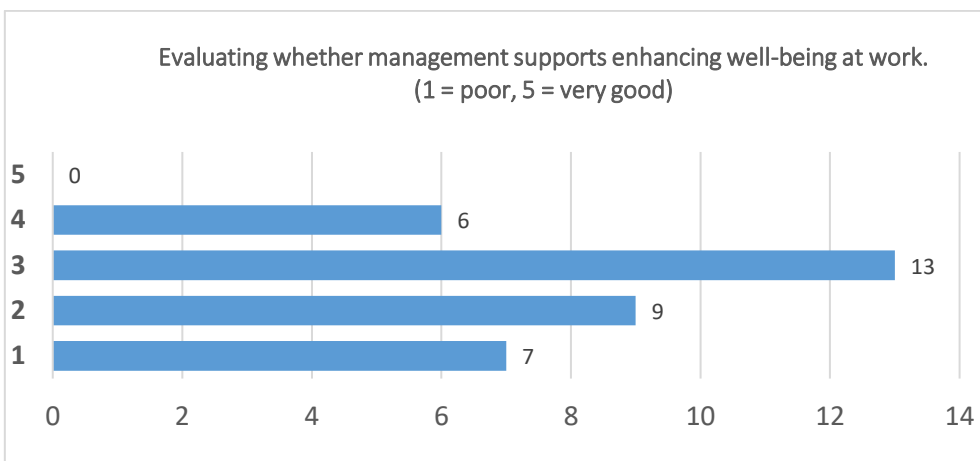


Figure 7: Questionnaire Analysis.

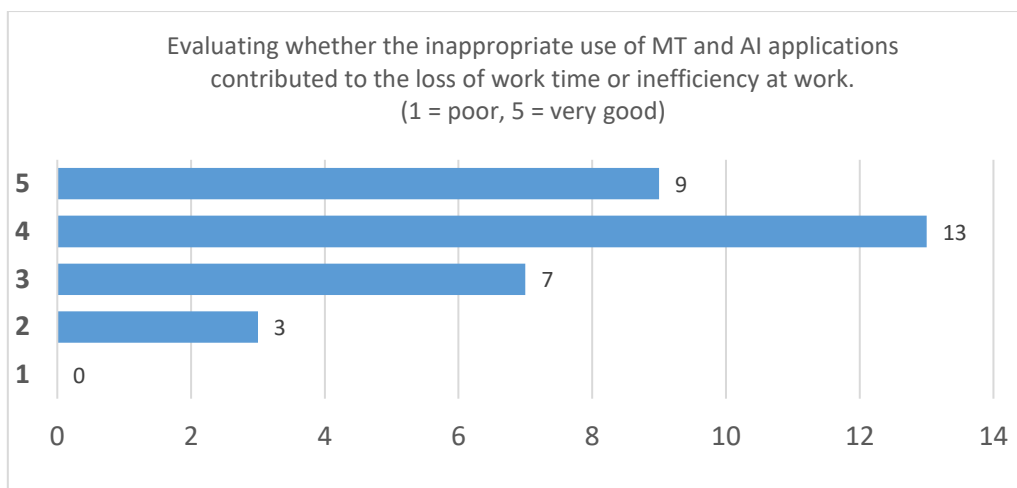


Figure 8: Questionnaire Analysis.

Results and discussion

The data collected from previous literary studies and questionnaires answered by RE at LATC were analyzed to provide valuable insights into the effects of MT and AI on RE experiences in the workplace. The analysis of the survey results can be summarized in two main points.

- **Positive and Negative Impacts of MT and AI**

The findings indicate that modern technologies play a crucial role in the work of employees, with 100% of respondents reporting their importance. However, the data also reveals that the MT and AI have led to increased workloads for 60.4% of employees. Conversely, 90.7% of respondents believed that AI and MT improved their job performance, indicating a nuanced relationship between these technologies and employee experiences.

- **Risks and Causes of Psychological Stress**

The survey results highlight significant concerns regarding the psychological well-being of employees. Over half (55.8%) of participants reported feeling work stressed and exhausted due to the volume of information they must handle. Additionally, 81.3% of employees noted that electronic devices and social media contribute to heightened work-related stress, while 95.3% highlighted that working beyond official hours impacts their rest and leisure time. These findings underscore the need to address the potential risks and causes of psychological stress among RE to create more supportive work environments.

The study and analysis of the literature review as well as considering the results of the questionnaire identified the key factors that may arise from the inappropriate use of AI and MT in the workplace as shown in Table 2. Which were found to contribute significantly to related stress work. Additionally, this study analysis allowed for a deeper understanding of the impact of MT and AI misuse on employee well-being, which paves the way for developing effective strategies to alleviate work pressures while taking full advantage of machine translation.

Table 2: lists the main causes of psychological stress in the workplace caused by the use of MT and AI.

Risk Factors	Stress Reason
Too much information	<ul style="list-style-type: none"> • The MT and AI, such as electronic gadgets, social media, e-mail, and, recently, chatbots, can bring stress and discomfort to official employees who rely on them in their work and must deal with a large amount of information swiftly and responsibly. • The employees are required to demonstrate experience working within complex technology environments to make informed decisions and meet work expectations; consequently, the responsibility becomes increasingly challenging
Unlimited work	<ul style="list-style-type: none"> • The MT allows RE to make critical decisions and instruct job tasks without restrictions in terms of time or place, all that using the internet, AI applications, moreover to communication applications to receive or transmit information for work tasks.

	<ul style="list-style-type: none"> • The employees often work during Casual hours, such as late at night or on weekends and public holidays, which can limit their opportunities for rest and leisure.
Shortening the time	<ul style="list-style-type: none"> • The AI and MT helped shorten work schedules for employers; accordingly, employees will feel overworked and unsure of their capacity to meet deadlines and make wise work decisions. • Work stress and reduced job satisfaction affect negatively the health of employees in the long run.
Lack of attention	<ul style="list-style-type: none"> • MT and AI applications such as digital games, social media platforms, and chatbots.in addition to e-mails can cause workflow interruptions during work time. According to that, workers and RE are not able to concentrate on their job tasks, which might result in problems and reduced job performance.

The proposed solutions

Identification of the main risk factors arising from the inappropriate use of AI and MT for work, allowed for a deeper understanding of the impact of MT and AI misuse on employee well-being, leading to searching for suggested solutions. The factors that contribute significantly to stress resulting from work stress are shown in Table 3. Additionally, this study analysis, paving the way for effective interventions to mitigate the associated work stress.

Table 3: Shows suggested solutions to reduce psychological stress in the workplace.

Risk Factors	Proposed Solution
Too much information	<ul style="list-style-type: none"> • Employees should receive training on how to effectively use MT further to AI apps with profit from them, as well as how to organize information gathered and use work rules of the organization to lessen work pressures and make wise decisions. • Training increases job productivity at the workplace and provides quick access to information.
Unlimited work	<ul style="list-style-type: none"> • Implementing a clear policy that defines time and place restrictions for the use of MT further is strictly enforced by the head of the Foundation or organization. • Ensure that the employees have time to rest in or outside of work in addition that their family time is respected. • Accordingly, becomes a more efficient and productive workplace by preventing stress and ensuring that employees are able to perform at their best during work time.
Shortening the time	<ul style="list-style-type: none"> • The RE consider targets to work as well as make clear plans, further setting limitations essential for organizations reliant on MT in work mechanisms. • The strategies of an organization are crucial for the well-being of employees to reduce work stress. In addition, ensure the effective and appropriate utilization of the MT and AI.
Lack of attention	<ul style="list-style-type: none"> • Determine what platforms and applications are acceptable within the business and establish consequences for those who break these guidelines. • Job performance tracking tools can be utilized and managed. Which can be provided and prepared according to the requirements of the work organization. • Workshops may also be conducted to educate employees on the significance of focus and time management, as well as the good use of MT.

Conclusio

The extensive examination of prior research presented in this study coupled with the analysis of questionnaire responses from employees at the LATC regarding the influence of MT and AI on RE, reveal that despite their help in enhancing work productivity, these advancements also bring about challenges such as heightened stress

levels and less gratifying job roles. where profound comprehension of the dual impact of MT on the workforce is clearly illustrated.

The research underscores the importance for organizations to strike a delicate equilibrium between leveraging MT and AI for operational efficiencies and safeguarding the welfare of their staff. Through the identification and mitigation of specific risk elements like information overload and temporal constraints, firms can establish nurturing work atmospheres that prioritize employee well-being while capitalizing on the advantages of MT adoption. This investigation accentuates the necessity for a holistic approach towards technology utilization in the work setting, one that prioritizes the harmonious coalescence of technological advancement and employee contentment.

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