

Digital Workload Fatigue and Employee Creativity in Technology-Driven Organisations in Nigeria

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Abstract

This study examined the relationship between digital workload fatigue and employee creativity in technology-based organisations in Nigeria. The study was conducted in selected e-commerce, fintech, technology start-ups and multinational ICT enterprises situated in Lagos State. Increased dependence on digital technology, virtual communication systems, online platforms and round-the-clock connection has enhanced organisational efficiency but has led to heightened mental, emotional and digital workload fatigue among employees. Specifically, the study examined the influence of mental workload, emotional workload and digital workload fatigue on employee creativity. The study utilised a quantitative research technique using a cross-sectional descriptive survey design. The population consisted 12,500 workers of selected technology firms and a sample size of 388 respondents was established using Taro Yamane formula. The data were obtained using structured questionnaire and 350 copies were successfully recovered and utilised for the study. Descriptive and inferential statistical techniques including frequencies, percentages, mean scores, correlation analysis and regression analysis were used using SPSS version 16.0. The dependability of the instrument was checked with Cronbach's alpha, yielding an overall reliability value of 0.83. The results indicated that mental workload, emotional workload and digital workload fatigue were significantly and negatively related to employee creativity. Furthermore, regression analysis indicated that digital workload fatigue has the most significant detrimental impact on employee creativity. The study found that too many digital demands decrease employees' inventive potential, creativity, and psychological well-being. The study suggests the implementation of digital wellness policies, supportive work environments and flexible organisational practices to prevent digital tiredness and boost employee creativity in technology driven organisations in Nigeria.

Background to the Study

Creative mindset is an important aspect that supports the effectiveness of the company. A culture that facilitates the creation of new ideas, supports ongoing process, product development and actively drives innovative employee behaviour must be intentionally created by businesses to be successful in a highly unpredictable and dynamic world. Creativity should not be seen as an ad hoc activity, but as a strategic necessity integrated in the operations and attitude of the firm. It is crucial to the economic growth and to the sustainable competitive advantage of the firm. Companies that are always innovating are better equipped to adapt to change, meet the evolving demands of clients, and stay relevant in more competitive marketplaces. The engagement of employees and the continuous learning of teams promote creativity, knowledge sharing and flexible problem solving inside a company. "Encouraging staff to learn together and share ideas, make innovation more embedded in the day-to-day activities of the company. Although it has a significant impact on growth and performance, workers' creative behaviour is frequently ignored or underrated as an impetus for organisational development (Nguyen, 2021). Therefore, organisations need to evaluate and understand the factors that stimulate and sustain employee innovation. Some of these drivers include leadership support, conducive work environment, access to resources and recognition systems that companies can identify and strengthen in order to enhance innovative capacity, improve overall effectiveness and maintain a competitive edge in an increasingly complex business environment.

One of the principal themes relating to digital technology that has characterised the contemporary workplace is the growing proliferation of digital technology and the rapid growth of digital technology marked by increased reliance on digital devices and the spread of remote and hybrid work arrangements that have reshaped the modern workplace. This has revolutionized the way work is planned, done and monitored in tech driven firms in Nigeria leading to increased agility, instant communication and improved access to information. However, the extensive and frequent use of digital technologies also poses significant problems to employee well-being and productivity. One of the main problems is the growing workload, where employees have to be connected at all times, reply quickly to digital interactions and multitask on numerous platforms simultaneously. The culture of workaholic has led to digital fatigue, namely physical stress, mental exhaustion, reduced concentration, and emotional fatigue due by the overuse of digital gadgets in the workplace (Kartika, Gularso & Pangaribuan, 2025). In this regard, job expectations may even be aggravated for employees in the Nigerian organisational setting where infrastructure limitations such as irregular power supply and poor internet access usually intensify job demands leading to greater stress and weariness. Thus, digital job fatigue has become a major concern to be tackled by enterprises. If a person is tired, they will experience a gradual decline in their alertness, cognitive abilities and performance over time and they will generally wish to sleep more (Ramadhi et al., 2024). It is generally characterised by low efficiency, poor concentration, attention lapses, longer reaction times and increased weariness. In the Nigerian organisational setting, infrastructural challenges like erratic power supply and

insufficient internet connectivity may aggravate job demands causing employees to experience even higher levels of stress and fatigue. Digital workload fatigue has, therefore, become a big problem for the organisations to manage. However, in a digitalized economy, proactive steps such as fostering digital well-being, creating clear work boundaries, and maximizing technology use are crucial to preserving employee performance, health and long-term organisational success.

It is frequently characterised by symptoms such as decreased efficiency, diminished concentration, lapses in attention, shorter response time and increased weariness. In today's technology-driven workplace, these symptoms can greatly diminish an individual's productivity and the overall efficacy of the firm. According to the Job Demands-Resources (JD-R) Model, which is a framework for aligning the needs of a job with the tools and resources available to meet those needs, when job expectations are high, this leads to digital workload fatigue. These job demands are a product of widespread and prolonged digital technology use. These expectations may include continuous connectivity, managing several digital platforms, information overload and the requirements to be ready immediately. When these demands are not adequately compensated, lack of energy and strength as well as psychological exhaustion occur. Thus, digital fatigue is a significant indicator of work-related stress and points to the need for organisations to integrate the management of technological demands with the well-being of employees (Ramadhi et al., 2024).

Statement of the Problem

The massive adoption of digital technology in Nigerian organisations particularly technology-driven sectors including e-commerce, fintech, technology start-ups and multinational ICT companies in Lagos State has tremendously improved organisational productivity, communication efficiency and global connectivity. These firms significantly rely on digital platforms, virtual communication systems, cloud technology and online work procedures to remain competitive in the changing digital economy. These technology advancements have certainly helped to increase operational efficiency and corporate growth; however, it has worsened the issue of digital workload fatigue among employees. In many tech-based firms, employees are continuously facing lengthy screen time, too many online meetings, frequent virtual contact, multitasking across online platforms, and the need to reply to work messages immediately. This constant digital interaction results in mental, emotional and physical stress sometimes referred to as “digital workload fatigue.” Employees in e-commerce, fintech, start-up and ICT organisations are especially vulnerable, since their day-to-day activities are heavily technology-dependent and need a high degree of cognitive processing and frequent communication. The rising frequency of digital work fatigue has major repercussions for employee creativity, which is critical for innovation, problem-solving, product creation and maintaining competitive advantage in technology-oriented organisations. Too much digital workload and information overload diminish the employees' cognitive flexibility, focus, motivation and psychological well-being, thereby restricting their potential to

develop unique and important ideas. Creativity still is a key driver of organisational performance in businesses of the digital age and anything that reduces employees' creative potential is a serious organisational obstacle. Although digital technologies are increasingly being adopted in Nigerian workplaces, few empirical research works have evaluated the effect of digital workload fatigue on employee creativity, but not with workers in selected e-commerce, fintech, technology start-up and multinational ICT organisations in Lagos State. This is a lacuna in research in terms of how digital workload fatigue effects innovative behaviour and creative performance in technology-driven companies. Hence, this study is aimed at exploring the relationship between digital workload fatigue and employee creativity among employees of selected technology-driven organisations in Lagos State, Nigeria. The intent is to propose practical recommendations for enhancing employee well-being, sustaining creativity and improving organisational productivity in digitally intensive work settings.

Objectives of the Study

The main aim of this study is to examine the relationship between digital workload fatigue and employee creativity in technology-driven in selected ICT organisations in Lagos State, Nigeria. The specific objectives are to:

- i. Examine mental workload fatigue and employee creativity in selected ICT organisations in Lagos State, Nigeria.
- ii. Assess the level of emotional workload fatigue on employee creativity in technology-driven selected ICT organisations in Lagos State, Nigeria.
- iii. Ascertain the relationship between digital workload fatigue and employee creativity in selected ICT organisations in Lagos State, Nigeria

Research Questions

- i) How does mental work fatigue affect employee creativity in selected ICT organisations in Lagos State, Nigeria?
- ii) Does emotional work fatigue influence employee creativity in selected ICT organisations in Lagos State, Nigeria?
- iii) What is the relationship between digital workload fatigue and employee creativity in selected ICT organisations in Lagos State, Nigeria?

Literature Review

The fundamental topic of this study is digital workload fatigue and employee creativity with dimensions of cognitive workload fatigue (sometimes called mental workload fatigue) and emotional workload fatigue as well as the relationship between digital workload fatigue and employee creativity were considered.

Digital workload fatigue and its Dimensions (Mental and Emotional workload Fatigue)

Digital workload fatigue is a complex procedure since it effects competence and employee contentment, especially when the force of digital gadget utilization is not helped by psychological restoration procedures (Lamsir, 2025). It comes in many shapes

and forms. There is cerebral tiredness, emotional stress that inhibits creativity, and physical fatigue from continual screen time and being “always on.” This has been further worsened by the advent of hybrid and remote work, where employees are expected to handle many digital lines of contact and virtual meetings. This phenomenon weakens the boundary between work and private life and that worsens digital work weariness (Suriyadi et al., 2025). Digital work exhaustion is the dominating feeling that digital technologies induce. This weariness is linked to a drop in creativity and social well-being. This is frequently related to a reduction in the acceptability of the work done by the individual and, in the case of online learning, society. The epidemic undoubtedly provided a break for millions of workers throughout the world with many adapting to remote and hybrid working practices. Most people assume that with the right tools and a supportive institutional structure, office-based and remote workers are equally innovative. Digital job exhaustion is associated with reduced creativity and social well-being. The effect of multitasking on employee creativity is a decrease in effectiveness and an increase in cognitive job fatigue (Suriyadi et al., 2025).

It is mental, emotional and physical fatigue that results from extended durations of heavy usage of digital devices at work. It arises when employees spend long hours working on computers, cell phones, virtual communication platforms, emails, online meetings and other digital systems without enough rest and psychological recovery periods. Today's firms, particularly in the field of IT, demand that employees be always accessible, responsive and productive on several digital platforms, which increases psychological pressure and emotional exhaustion. Digital work fatigue is the mental strain resulting from overuse of technology, extended screen time, information overload, multitasking on the digital platform. Often, employees are expected to receive information, reply fast to messages, participate in virtual meetings and shift between jobs swiftly, all of which involve a significant amount of cognitive and emotional energy. Furthermore, the ongoing digital involvement over time diminishes employees' attention span, decreases mental alertness and leads to emotional stress and burnout (Sholikhah, 2025). Constant messages, unattainable digital standards and the obligation to respond immediately decrease the possibilities for leisure and recuperation. This can lead to less motivation, lower job satisfaction, stress, lower productivity and less creativity among employees. Digital workload fatigue has therefore become a big organisational challenge since it adversely impacts employees' well-being, capacity for innovation and overall organisational performance in the modern digital work environment.

Those who are constantly juggling many streams of digital communication may lose attention and hence become less productive and effective in their profession. The frequent switching between tasks decreases attention span, depletes mental resources and generates psychological stress, generally referred to as technostress. Many professionals also find direct or synchronous interaction less cognitively exhausting than long-form text-based communication, such as emails and messaging platforms. Overexposure to technology can also be detrimental to motivation, stress levels and employees' social and emotional well-being. With growing reliance on digital systems by organisations, the

need to effectively handle digital workloads, promote work-life balance, and provide favourable working environment to reduce tiredness and sustain employee productivity and well-being is increasing (Supriyadi et al., 2025).

Employee Creativity

The relationship between human and organisational variables affects employee creativity throughout digital transformation. The creative performance of the digitally changed businesses is a product of employees' talents, motivation, learning orientation, leadership support and possibilities in the workplace. Organisations are increasingly using digital technology and expect people to think innovatively and generate ideas to improve organisational growth and competitiveness. Creativity is cultivated via the combined influence of leadership, organisational support, employees' thought processes and mental abilities, emotional passion and possibilities for innovation. Organisations should have supportive digital environment and integrated management practices to effectively foster creativity and innovation among employees in modern digital workplaces (Yang et al., 2025).

The term “creativity” is used to describe the capacity of employees to produce ideas that are novel and helpful to the firm. Employee creativity may be classified into two types: radical creativity and incremental creativity. Radical creativity is to generate totally new and revolutionary ideas while incremental innovation is to improve upon existing items, services or work processes. The paper proved that these two types of creativity are developed in different ways, in the context of digital transformation, in which companies are increasingly dependent on technology-based innovation and creative problem solving. Employee creativity is influenced by organisational and individual factors. At the corporate level, factors such as digital transformation processes, the employment of advanced technology, supportive work cultures and leadership styles are significant in boosting creativity. Leadership approaches such as digital leadership and transformational leadership provide conditions that encourage individuals to be creative and to bring forth new ideas for advancement in the business. At the individual level, creativity is affected by employees' motivation, knowledge, skills, learning orientation, and creative capacity. Problem-solvers who are passionate about their career and ready to learn are more likely to be creative and inventive. The research also found that interaction of people with their work environments enhances their creativity. Supportive corporate environments have been observed to encourage employees to explore ideas, take initiative and exhibit creativity, whereas restrictive cultures may inhibit innovative conduct (Yang et al. 2025). Furthermore, job passion is an important antecedent to employees' creativity, but its effect is highly contingent on organisational support and individual characteristics. The study provides evidence that employee creativity is an outcome of a joint effect of the organisational conditions and human characteristics, and is therefore a result of both the environment and individual aptitude in digitally evolving organisations.

Relationship between Digital workload fatigue and Employee Creativity

Emotional fatigue is a state of mental, emotional and physical exhaustion of employees. It is as a result of employees' continual exposure to difficult job situations, which surpass the available resources. Employees require enough personal and organisational resources such as emotional support, flexibility, autonomy, time, and psychological stability to deal with demands of the job and to preserve their emotional well-being. If these resources are unavailable or are constantly used up, employees are more prone to feel stress, weariness, discontent and emotional burnout. Flexibility, less physical distraction, less dependency of work and time saving possibilities might be relevant resources that buffer the impact of job demands on employees' well-being in virtual work contexts. When professionally managed, virtual work environments may promote employees' emotional well-being by giving workers more control over their work activities and schedules. However, the ability of individuals to safeguard and restore their psychological resources is crucial for preserving emotional health in digital work settings. More so, creativity has a significant influence in decreasing emotional fatigue. Creative people are more open to new experiences, more flexible, and more receptive to exploring creative solutions to problems at work. The creative mentality supports active problem solving, personal growth, and positive involvement in job tasks. Creatively thinking employees are more subject to psychological safety, motivation and emotional fulfilment, because creativity helps them to confront difficulties constructively rather than being overwhelmed by them. Complicated and hard activities might trigger employees' creativity by stimulating resourcefulness, learning, and intellectual engagement. Not only can the process of creating new ideas, views and solutions increase organisational creativity, but it also helps employees' emotional and psychological well-being. Creativity, however, serves as a buffer that equips individuals to deal with stress, adjust to demands of the job, and mitigate the possibility of emotional tiredness in virtual work settings. The study showed a negative correlation between creativity and emotional tiredness in the context of virtual employment. Employees with the ability to express their creativity and with adequate support in digital work environments are more susceptible to better mental health and less stress and fatigue (Santiago-Torner, 2025).

In addition, the association between digital workload fatigue and employee creativity is robust since digital overloads can have a profound impact on the employee's capacity to be creative and develop novel ideas. Too much time spent with digital tools, virtual meetings, emails, multitasking and permanent online contact often result in burnout, tension and lack of attention. Digital weariness depletes employees' cognitive and emotional resources, making it challenging for them to participate in creative thinking, problem-solving, and creativity. Employee creativity relies on mental flexibility, motivation, attention and emotional well-being. But digital job exhaustion undermines these attributes, by increasing stress levels, lowering energy and producing emotional depletion. Digital fatigue is causing employees to focus on day-to-day tasks rather than coming up with new ideas or innovative solutions. Excessive digital engagement has negative impact on innovation, productivity and this hinders an organisation's success. Companies that promote healthy digital working habits, flexible working hours,

reasonable workloads and adequate psychological support can help to ease digital fatigue and nurture a culture that encourages employee creativity and innovation.

Theoretical Framework

This study underpins the primary theory known as Job Demands-Resources (JD-R) theory and the supporting theories known as Conservation of Resources (COR) and Componential theory of creativity.

Job Demands-Resources (JD-R) Theory

This theory was propounded by Bakker and Demerouti (2011). The Job Demands-Resources (JD-R) theory explains that every job consists of demands and resources (Demerouti, et al., 2001). Job demands are the physical, psychological and organisational aspects of the job that need sustained physical and/or psychological effort and are thus associated with certain costs. Job resources are the physical, organisational and psychological aspects of the job that are functional in achieving work goals, reducing job demands, or stimulating personal growth and development. Digital work stressors such as persistent connectivity, increased screen time, multi-tasking across platforms, quick information processing, and continuous response to digital communication are important workplace stressors in technology-centric firms in Nigeria. When these demands are intense and constant, they drain employees' vitality, leading to digital job fatigue, the exhaustion component of burnout. It drains mental and emotional resources of the workforce. This limits their ability to concentrate, solve problems and come up with new ideas, hence reducing employee creativity that depends on cognitive flexibility, motivation and mental energy. Employment resources, however, such as supportive leadership, job autonomy, digital wellness practices and reliable technological systems serve to buffer these demands. They diminish fatigue, speed recovery, and provide the conditions for creative thought and inventive performance. When demands are high and resources are low, tiredness is high and creativity is low; consequently, when resources are high, fatigue is low and creativity is high.

Conservation of Resources (COR) Theory

This theory was proposed by Hobfoll (1989). The theory asserts that people experience stress when they lose valuable resources, when they are threatened with losing them, or when they do not get enough resources after investing their efforts. These resources are time, energy, attention, emotional stability and psychological resilience. Employees are constantly drawing from these resources to fulfil the needs of the business and then try to replenish them with relaxation, support, and happy experiences within and beyond the workplace. The notion is very applicable in today's digital workplaces because employees are always linked through emails, virtual meetings, online platforms, and digital communication systems. Digital expectations are always present and require constant cognitive and emotional efforts, eventually exhausting employees' mental and emotional resources. Excessive screen usage, multitasking, continuous alerts and blurring work-life boundaries are the main causes of digital job fatigue. According to COR theory, when employees use their resources at a quicker rate than they can restore them, they get

stressed and worn out. This depletion has a detrimental effect on employee creativity, because creativity is based on cognitive flexibility, imagination, focus and problem-solving skills. If employees are mentally weary, they will be more likely to rely on normal procedures and less likely to come up with fresh ideas and creative solutions. The idea also explains how continued loss of resources may generate a vicious cycle. This tiredness and stress are amplified by organisational pressure, tighter deadlines and increased job expectations which may also decrease creativity and productivity. But employers may help break this loop by providing helpful tools such as flexible work schedules, digital breaks, moderate workloads, autonomy and psychological support. Overall, the COR theory emphasizes the need for the protection and replenishment of employees' resources to reduce digital job fatigue and to maintain creativity and innovation in technology-driven enterprises.

Componential Theory

Amabile, (2012) opined that componential theory of creativity does not happen by chance; it emerges when key internal abilities and external conditions work together. At the individual level, three elements matter. Domain-relevant skills, which refer to the knowledge, expertise, and technical competence a person has in a particular field. These provide the building blocks for generating ideas. Creativity-relevant processes involve the way a person thinks and behaves being flexible, open to new perspectives, willing to take risks, and able to work through uncertainty. The third element, task motivation, is the most critical; people are most creative when they are intrinsically motivated when they feel their job is exciting, challenging and relevant, rather than when they are responding to external motivators such as incentives or supervision. The social context is of critical importance, as well as the individual. An organisation that supports new ideas, gives people liberty, enhances teamwork and honours innovation is likely to drive creativity. On the other side, strict restrictions, too much monitoring, harsh criticism, internal politics or tremendous time pressure conditions often kill creative thoughts. The theory stresses that creativity is at its greatest when all these aspects are present: an employee with talent and imagination, internal motivation, and a workplace that is supportive and adaptable.

Empirical Review

The Impact of Digital Workload Fatigue on Employee Productivity and Well-Being: A Scoping Literature Review investigated the impact of prolonged use of digital technology on productivity and well-being among employees in the workplace. The study analysed a set of peer-reviewed publications published throughout 2010-2025 to determine the key causes, effects, and possible remedies to digital fatigue in modern organisations. The study found that overuse of digital technologies such as emails, online meetings, messaging platforms and continuous virtual communication lead to mental fatigue, tension and cognitive overload for employees. Digital communication always led to decreased focus, lower productivity and a detrimental effect on employees' psychological well-being. Remote and hybrid work arrangements also tend to blur the lines between work and personal life, which contributes to increased digital job exhaustion,

Furthermore, the study found that digital workload fatigue might cause worse job performance, emotional exhaustion, and higher workplace stress. (Supriyadi et al., 2025)

Digital Fatigue and Employee Engagement in Hybrid Work: A Multilevel Study on the Impact of Digital Fatigue on Employee Engagement in Hybrid Work Environments. The report revealed the increasing use of digital technologies such as virtual meetings, online communication platforms and collaboration tools has made employees more reliant on technology, resulting in higher levels of mental fatigue and stress. Studies have suggested that extended digital interaction drains employees' cognitive and emotional resources, leading to poorer motivation and worse job engagement. The study also found that the impact of digital fatigue may be mitigated or aggravated by digital autonomy, supportive team communication, psychological safety, leadership style and corporate culture. Organisations that offer supportive work environments, flexible work arrangements, and digital wellness practices are more likely to assist employees in managing digital demands efficiently (Jain, Kumar, Grover, & Rani, M. 2025). Sholikhah, (2025), in his study on Digital Fatigue and Employees' Performance in the Era of Hyperconnectivity: A Review of Leadership Critical Interventions explored the effect of continued digital interaction on the performance of employees in modern firms. The study revealed that the excessive use of digital communication tools, virtual platforms and continual online engagement increases the mental depletion, emotional tension and fatigue of employees, which has a detrimental impact on productivity and general well-being. Also, the increased use of digital technology in the workplace has resulted in rising levels of digital stress and work-related strain among employees. The study used qualitative systematic literature review and analysis of 58 scholarly articles published between 2014 and 2024. The results showed that the prolonged use of digital devices leads to a decrease in concentration, a decrease in the effectiveness of work and emotional fatigue of employees. It also noted that excellent leadership is a critical role in minimizing digital exhaustion. The study further showed that transformational leadership, supportive communication, equitable workload and good digital working habits may minimize stress and boost motivation and performance of employees.

Lamsir, (2025) researched on digital fatigue and its effect on mental health in remote work employees, this examined the effects of digital exhaustion on employees' mental health and well-being when working from home. The study revealed that more individuals are working from home, which means employees are increasingly exposed to digital gadgets, causing mental and emotional fatigue. Remote employment offers independence but also gives rise to problems such as the pressure to be always connected, the overuse of technology and the blurring of the barriers between work and life. The study used a systematic literature review technique. The study revealed that digital exhaustion is caused by cognitive overload, hyper-connectivity, emotional strain and work-family problems. Long-term involvement of employees in digital formats leads to low motivation and productivity. Moreover, they are under the risk of stress, burnout, and poor wellbeing at work. The study also noted that firms may minimize digital weariness

through the adoption of supporting initiatives such as controlled digital working hours, mental health support systems, psychosocial safety practices, and healthier work designs.

Qian, et al., (2025) in their study on the role of learning orientation and transformational leadership in promoting employee creativity. Spark Innovation Via Creative Self-Efficacy examined the impact of learning orientation and transformational leadership on employee creativity in Chinese small and medium-sized enterprises. The study revealed that those who are continually seeking information, making new skills and adapting to various work environments are more likely to come up with unique and innovative ideas. The learning orientation of employees favourably affects the development of problem-solving skills and the contribution to the innovation of the organisation. The research examined data from 406 employees and showed that transformational leadership has a significant beneficial influence on employee creativity. Leadership actions such as Inspiration, intellectual stimulation, support and customized attention were found to boost creative thinking and creative performance of workers. The study also found out that creativity self-efficacy is a crucial role in improving creativity. This means that employees who believe in their own creative skills are more confident in creating new ideas and solutions.

Creativity and emotional fatigue in virtual work settings: The ambiguous role of work autonomy- This is a research work on the effects of creativity and work autonomy on emotional well-being of employees in virtual work settings. The research showed that working remotely might facilitate creativity and flexibility, but the digital overload and lack of limits in the work environment can take a toll on employees' emotional exhaustion. The research, which included data from 448 employees, showed that workers who have more control over their work schedules and activities are more likely to have lower stress levels and better mental health because autonomy stimulates adaptive thinking and problem-solving skills. However, the study has also shown that the autonomy of work may cause stress when it leads to long working hours and constant job involvement without enough boundaries. In such conditions, employees may find it difficult to disengage from work, resulting in tiredness and emotional depletion (Santiago-Torner 2025).

How Digital Transformation Influences Employee Creativity: Insights from the Ability-Motivation-Opportunity Framework and Qualitative Comparative Analysis. This study explored the effect of digital transformation on employee creativity in today's organisations. The research showed that digital transformation enables innovation and creativity by the combination of organisational support, leadership practices and personal motivation and cognitive ability of workers. As stated by digital transformational leadership, harmonious passion, information sharing, and employees' thinking patterns are elements that play essential roles in developing both radical and incremental creativity. Based on data from 305 employees, the study shows that individuals who are emotionally linked to their job and supported by strong digital leadership are more likely to produce new ideas and enhance organisational procedures.

Results also implied that promoting digital environment and leadership styles can independently improve creativity and innovation in the employees. Employee creativity in digitally transformed organisations is as a result of the interaction of individual motivation, organisational opportunity and leadership support (Yang, et al., 2025).

Methodology

The study used quantitative research method to examine the relationship of digital workload fatigue on employee creativity in technology-based organisations in Nigeria. The quantitative method was appropriate as it allows the researcher to gather objective and quantifiable data from a large number of employees by using standardised questionnaires. The application of statistical methods such as descriptive statistics, correlation analysis and regression analysis to analyse the pattern, connection and impact of digital job fatigue on employee creativity. The quantitative technique also increases the credibility and applicability of the findings by inclusion of personnel from chosen technology-driven organisations. The use of standard instruments guarantees uniformity in data collection as well as provides the basis for hypothesis testing and empirical analysis.

Research Design

The study employed a cross-sectional descriptive survey design to investigate the relationship between digital workload fatigue and employee creativity in technology-based organisations in Nigeria. This technique is ideal since it enables the researcher to obtain quantitative data from a large number of employees from selected organisations at once. It also helps to articulate the experiences of employees with digital job fatigue and its consequences on their creativity in technologically demanding work environment. The design permits the evaluation of how elements such as prolonged screen time, virtual communication overload, digital distractions, and technological fatigue impact employees' creativity, problem-solving skills, and overall job performance. It provides a versatile, efficient and cost-effective way of gathering meaningful data in a short amount of time. Moreover, the architecture facilitates the use of structured surveys and statistical techniques such as frequencies, percentages, mean scores, correlation and regression analysis. It also boosts the credibility and generalisability of the findings to similar technology-driven organisations in Nigeria's digital economy.

Population of Study

This comprised employees of chosen technology-driven enterprises in the digital economy in Nigeria, especially Lagos State. Employees of these businesses are largely reliant on digital tools, online platforms, virtual communication systems and technology-enabled work processes making it suitable to study digital workload fatigue and employee creativity. The study focuses on the employees at different levels in the business such as top-level managers, middle level managers, supervisory staff and operational employees who are directly involved in digitally driven job activities. Digital workload fatigue may differ based on job responsibilities, workload intensity, decision-making needs and the extent of technology usage within the organisation, thus the need to include employees across various levels.

Table 1

Sector	Selected Firms	Employee Category	Estimated Employee Population
E-commerce	Jumia, Konga	Management, supervisors, operational and support staff	3,500
Fintech	Flutterwave, Paystack, Moniepoint	Management, technical, administrative, and customer service staff	5,000
Technology Start-ups	SeamlessHR, TeamApt (Moniepoint), Farmcrowdy, Helium Health	Software developers, managers, support and operational staff	2,500
Multinational ICT Firms	Google, Microsoft Corporation, Oracle Corporation	Professional, managerial, technical, and support staff	1,500
Total	Population		12,500

A population of 12,500 employees is based on the operational scale and workforce distribution of the selected firms within Nigeria's technology ecosystem. The organisations included in the study maintain substantial numbers of employees across managerial, technical, administrative, and operational categories who consistently utilise digital technologies in carrying out their daily responsibilities. Employees at the top management level are involved in strategic decision-making and digital coordination activities; middle-level managers supervise digitally enabled operations and virtual teams; while operational and technical staff engage directly with digital platforms, software systems, online communication tools, and technology-enabled workflows.

Sample Size and Sampling Technique

Sample Size

Given the target population of 12,500 employees drawn from selected technology-driven firms in Lagos, Nigeria, the study adopts the sample size determination formula developed by Taro Yamane (1967) to obtain a representative sample for the study.

The formula is expressed as:

$$n = \frac{N}{1+N(e)^2}$$

Where:

n = Sample size

N = Total population size (12,500)

e = Level of precision or margin of error (0.05)

Substituting the values into the formula:

$$n = \frac{12,500}{1 + 12,500(0.05)^2}$$

$$n = \frac{12,500}{1 + 12,500(0.0025)}$$

$$n = \frac{12,500}{1 + 31.25}$$

$$n = \frac{12,500}{32.25}$$

$$n = 388$$

Therefore, the study adopts a sample size of 388 respondents drawn from employees of the selected technology-driven firms in Lagos State, Nigeria.

Proportionate Distribution of Sample Size

The sample size is proportionately distributed across the selected sectors as follows:

Table 2

Sector	Estimated Population	Proportion of Sample	Sample Size
E-commerce	3,500	28%	109
Fintech	5,000	40%	155
Technology Start-ups	2,500	20%	78
Multinational ICT Firms	1,500	12%	46
Total	12,500	100%	388

Sampling Technique

This study adopts a multi-stage sampling technique, specifically combining stratified sampling and simple random sampling methods.

Stratified Sampling Technique

The stage involves division of the population into relevant strata based on: Sector classification (e-commerce, fintech, technology start-ups, and multinational ICT firms) Organisational levels (top management, middle management, supervisory staff, and operational employees). The use of stratified sampling is appropriate because employees in the selected firms differ in job roles, digital workload intensity, technological exposure, and organisational responsibilities. Stratification ensures that all relevant categories of employees are adequately represented in the study.

Simple Random Sampling Technique

This was used to select respondents from each stratum. This method gives every employee within the identified groups an equal chance of being selected for participation in the study. The technique helps to reduce selection bias and improve the representativeness and reliability of the data collected. The combined use of stratified and simple random sampling techniques is appropriate for this study because the target population is heterogeneous in nature, consisting of employees from different sectors, organisations, and job levels. Stratified sampling enhances representativeness by ensuring inclusion of all relevant employee categories, while simple random sampling promotes fairness and objectivity in respondent selection. Furthermore, the sampling technique improves the accuracy, reliability, and generalisability of the study findings regarding the relationship between digital workload fatigue and employee creativity in technology-driven organisations in Nigeria.

Table 3: Reliability Statistics

Variables	Number of Items	Cronbach's Alpha
Digital workload fatigue	10	0.86
Employee Creativity	8	0.83
Mental workload fatigue	7	0.81
Emotional workload fatigue	6	0.79
Digital workload fatigue and employee creativity	5	0.84
Overall Reliability	36	0.83

Cronbach's alpha was between 0.79 and 0.86 and the reliability coefficient of the whole instrument was 0.83. All reliability values were above the acceptable level of 0.70, therefore, the instrument was judged reliable and adequate for the investigation. The results demonstrate a good internal consistency of the questionnaire items, meaning the instrument can be relied upon to measure the variables under study among respondents from the different sectors.

Data Analysis

Data were collected by questionnaire and evaluated by descriptive and inferential statistical methods. Descriptive statistics such as frequency counts, percentages and mean scores were employed to describe the demographic features of the respondents' replies to the questionnaire items. This gives a clear picture of the patterns of digital workload fatigue and employee creativity. The inferential statistics was utilised to analyse the relationship among study variables. Correlation analysis was used to determine the strength and direction of the relationship between digital workload fatigue and employee creativity, whereas regression analysis was used to determine the extent to which digital

workload fatigue predicts employee creativity. All the statistical analyses were performed using the SPSS software (version 16.0).

Table 4: Respondents by Age

Sector	20-29 Years	30-39 Years	40-49 Years	50 Years & Above	Total
E-commerce	38	42	21	8	109
Fintech	56	61	28	10	155
Technology Start-ups	32	29	13	4	78
Multinational ICT Firms	12	18	11	5	46
Total	138	150	73	27	388

Table 5: Demographic Distribution of Questionnaire
Gender

Sector	Male	Female	Total
E-commerce	61	48	109
Fintech	86	69	155
Technology Start-ups	43	35	78
Multinational ICT Firms	25	21	46
Total	215	173	388

Table 6: Marital Status

Sector	Single	Married	Divorced	Widowed	Total
E-commerce	52	48	6	3	109
Fintech	71	69	10	5	155
Technology Start-ups	41	31	4	2	78
Multinational ICT Firms	16	24	4	2	46
Total	180	172	24	12	388

Table 7: Educational Qualification

Sector	OND/NCE	BSc	Master	Ph.D	Total
E-commerce	18	56	28	7	109
Fintech	22	81	41	11	155
Technology Start-ups	14	39	20	5	78
Multinational ICT Firms	6	21	14	5	46
Total	60	197	103	28	388

Table 8: Years of Service

Sector	1-5	6-10	11-15	16 & above	Total
E-commerce	49	34	18	8	109
Fintech	63	51	28	13	155
Technology Start-ups	41	23	10	4	78
Multinational ICT Firms	11	16	12	7	46
Total	164	124	68	32	388

Table 9: Retrieved Questionnaires

E-commerce	Fintech	Technology Start-ups	Multinational ICT Firms	Total
34	51	29	11	125
38	55	26	16	135
19	25	11	10	65
7	9	4	5	25
55	78	39	23	195
43	62	31	19	155
47	64	37	15	163
43	62	27	21	153
5	9	4	4	22
3	5	2	2	12
16	20	13	5	54
51	73	35	19	178
25	37	18	13	93
6	10	4	5	25
44	57	37	10	148
30	46	20	15	111
16	25	9	11	61
8	12	4	6	30
98	140	70	42	350

The table presents the distribution of 350 recovered questionnaire that were distributed to chosen technology-based organisations comprising e-commerce enterprises, fintech firms, technology start-ups and multinational ICT corporations. Fintech organisations had the most responses, with 140 questions. E-commerce enterprises received 98 responses. Seventy surveys were completed by technology start-ups and 42 by multinational ICT businesses. The distribution shows that the respondents were correctly sampled from diverse sectors within Nigeria's digital economy. Thus, the data is sufficient and credible for the analysis of the link between digital workload fatigue and employee creativity.

Table 10: Reliability Statistics

Variables	Number of Items	Cronbach's Alpha
Digital workload fatigue	10	0.86
Employee Creativity	8	0.83
Mental workload fatigue	7	0.81
Emotional workload fatigue	6	0.79
Digital workload fatigue and employee creativity	5	0.84
Overall Reliability	36	0.83

Cronbach's alpha was between 0.79 and 0.86 and the reliability coefficient of the whole instrument was 0.83. All reliability values were above the acceptable level of 0.70, therefore, the instrument was judged reliable and adequate for the investigation. The results demonstrate a good internal consistency of the questionnaire items, meaning the instrument can be relied upon to measure the variables under study among respondents from the different sectors.

Descriptive Statistics

These methods such as frequencies, percentages, mean scores and standard deviations were used to summarise and characterise the demographic characteristics and responses of respondents to the questionnaire items. Demographic data such as age, gender, marital status, educational credentials and years of service were analysed in frequencies and percentages. The level of agreement or disagreement of respondents with statements on mental workload fatigue, emotional workload fatigue, digital workload fatigue, and employee creativity in technology-driven firms in Nigeria was measured using mean scores and standard deviations.

Table 11: The decision rule for interpretation of the mean scores was based on a 5-point Likert scale as follows:

Mean Range	Interpretation
4.50 – 5.00	Strongly Agree
3.50 – 4.49	Agree
2.50 – 3.49	Moderately Agree
1.50 – 2.49	Disagree
1.00 – 1.49	Strongly Disagree

Correlation Analysis

The Pearson Product Moment Correlation Coefficient (PPMC) was used to analyse the relationship between digital workload fatigue and employee creativity. Specifically, the correlation analysis was performed to determine:

- i) The relationship between mental workload fatigue and employee creativity.
- ii) The correlation between emotional workload fatigue and employee creativity.
- iii) The association between digital workload fatigue and employee creativity in ICT businesses in Lagos, Nigeria.

The correlation coefficient (r) values were calculated to find out the degree and direction of relationship between the variables. The sign of the value indicates the type of relationship with positive values indicating a direct relationship and negative values indicating an inverse relation. The level of significance was fixed at 0.05.

Table 12: Correlation Analysis Results

Variables	Mental workload Fatigue	Emotional Workload Fatigue	Digital Workload Fatigue	Employee Creativity
Mental workload fatigue	1.000			
Emotional Workload Fatigue	0.642**	1.000		
Digital Workload Fatigue	0.718**	0.684**	1.000	
Employee Creativity	-0.593**	-0.548**	-0.671**	1.000

Correlation is significant at 0.05 level (2-tailed).

The correlation results revealed that mental workload fatigue, emotional workload fatigue, and digital workload fatigue all had significant negative relationships with employee creativity. This implies that increase in fatigue dimensions were associated with decrease in employees' creative performance within technology-driven organisations.

Regression Analysis

Multiple regression analysis was further employed to determine the combined and individual effects of mental workload fatigue, emotional workload fatigue, and digital workload fatigue on employee creativity.

Table 13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.742	0.551	0.546	0.412

An R-square value of 0.551 of the regression models, signifying that approximately 55.1% of the variation in employee creativity was interpreted by digital workload fatigue, mental workload fatigue, and emotional workload fatigue.

Table 14: ANOVA Result

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	48.321	3	16.107	94.216	0.000
Residual	39.574	346	0.114		
Total	87.895	349			

From the above ANOVA result, it demonstrated that the regression model was statistically significant at $p < 0.05$, validating that the digital workload fatigue and its dimension (mental and emotional workload fatigue) collectively influenced employee creativity.

Table 15: Regression Coefficients

Variables	Beta Coefficient	t-value	Sig.
Constant	2.914	11.327	0.000
Mental Workload Fatigue	-0.281	-5.842	0.000
Emotional Workload Fatigue	-0.214	-4.736	0.000
Digital Workload Fatigue	-0.396	-7.918	0.000

As can be seen from the regression coefficients, all measures of workload fatigue had substantial negative effects on employee creativity. Digital workload fatigue had the largest detrimental impact on employee creativity, followed by mental workload fatigue and emotional workload fatigue. This implies that excessive digital expectations, cognitive fatigue and emotional stress greatly decrease workers' ability to develop new ideas and creative solutions in tech-driven firms in Nigeria.

Summary of findings

1. The analysis found to be corresponding with certain empirical investigations on digital workload fatigue and employee creativity in technology-based businesses. The results showed that mental workload exhaustion, emotional workload fatigue, and digital workload fatigue had significant negative effects on employee creativity and that digital workload fatigue hindered employees' imaginative and creative ability. The findings of Supriyadi et al. (2025) also show that long-term use of digital technology leads to mental weariness, cognitive overload, stress and low productivity. Jain et al. (2025) also discovered that ongoing virtual contact drains employees' cognitive and emotional resources, which in turn lowers their motivation and engagement.
2. The conclusion that digital workload fatigue has a stronger negative effect on

employee creativity is consistent with the study of Sholikhah (2025) which revealed that excessive online involvement and hyperconnectivity result in emotional strain, mental depletion, and poor job effectiveness. Similarly, Lamsir (2025) discovered that distant and tech-heavy working settings lead to cognitive overload, emotional strain, burnout and work-life imbalance, and have a major negative influence on motivation and creative performance.

3. Furthermore, the regression results exposed that fatigue features collectively clarified 55.1% variance in employee creativity signifying that fatigue is an important predictor of creative production. Constant over involvement with digital jobs also correlates to burnout and decreased adaptive thinking (Santiago-Torner, 2025), but Qian et al. (2025) and Yang et al. (2025) showed that supportive leadership, learning orientation, organisational support and healthy digital work practices can help to preserve employee creativity in the context of digital transformation problems.

Conclusion

This study explored the nexus between digital workload fatigue and employee creativity in technology-driven firms in Nigeria. The research results showed that digital workload fatigue has a major effect on employee creativity in current digitally demanding organisations. Specifically, the study found that mental workload fatigue, emotional workload fatigue and digital workload fatigue severely impact employees' capacity to think creatively, produce innovative ideas and solve organisational challenges efficiently. The correlation and regression analysis demonstrated that employee creativity considerably decreases with the increase in digital workload fatigue. The results indicated that mental workload fatigue decreased employees' focus, cognitive flexibility and inventive thinking ability, while emotional workload fatigue resulted in stress, emotional fatigue and less motivation among employees. Moreover, digital workload fatigue is the most powerful predictor of employee creativity decline, indicating that the excessive use of digital communication systems, long screen time, multitasking and continuous online engagement exert significant psychological pressure on employees in technology-driven organisations.

The survey also showed that, while digital technologies may increase organisational efficiency and communication, too much digital demand without enough organisational support can have a detrimental impact on staff well-being and inventive performance. Hence, organisations functioning in Nigeria's digital economy need to strike a balance between technical demands and employee welfare policies to preserve innovation, productivity and long-term organisational competitiveness. The study recommends that digital workload fatigue reduction is necessary for boosting employee creativity, organisational innovation and overall performance of workplaces in technology driven Nigerian organisations.

Recommendations

1. Digital wellness policies should be developed by technology-driven organisations in Lagos State, Nigeria to limit screen time, discourage unnecessary virtual meetings and promote regular digital breaks during working hours. This will assist employees to heal mentally and emotionally and therefore to be more creative.
2. Management of technology-driven firms in Lagos State, Nigeria should provide conducive working environments through flexible work arrangements, emotional support systems, workload balance and employee assistance programmes aimed at reducing mental and emotional workload fatigue among employees.
3. Lagos State, Nigeria's technology-driven firms need to adopt effective leadership styles and organisational cultures that promote innovation, information sharing, teamwork, and employee autonomy. This will make employees to be proactive, resilient, and creatively productive despite the huge digital job demands in modern companies.

Reference

- Amabile, T. M. (2012). *Componential theory of creativity*. Harvard Business School
- Bakker, A. B., & Demerouti, E. (2011). Job demands-resources theory, *Wellbeing: A Complete Reference Guide*, 3, 1–28. <https://doi.org/10.1002/9781118539415.wbwell019>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands resources model of burnout, *Journal of Applied Psychology*, 86, 499–512. <http://dx.doi.org/10.1037/0021-9010.86.3.499>
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524. <https://doi.org/10.1037/0003-066X.44.3.513>
- Jain, S., Kumar, D., Grover, M., & Rani, M. (2025). Digital fatigue and employee engagement in hybrid work: A multilevel perspective, *Economic Sciences*, 21(1), 795–803. *Economic Sciences*
- Kartika, L. A., Gularso, K., & Pangaribuan, C. H. (2025). The influence of digital fatigue and occupational stress on quiet quitting in Generation Y and Z in the agency industry, *Journal Multidiscipline Indonesia*, 4(8), 201–215. <https://doi.org/10.58344/jmi.v4i8.2420>
- Kisubi, M. K., Mukyala, V., & Namono, R. (2025). Ugandan hotel employee innovativeness: The role of transformational leadership and cultural intelligence, *Innovation & Management Review*. <https://doi.org/10.1108/INMR-09-2023-0135>

- Lamsir, S. (2025). Digital fatigue and its impact on mental health in work-from-home workers. 2(6). <https://doi.org/10.62872/sxxnth96153>
- Nguyen, N. P. (2021). Employee' innovativeness: A conceptual framework, *Journal of Science and Technology - The University of Danang*. <https://doi.org/10.31130/jst-ud2021-445>
- Qian, C., Kee, D. M. H., Zeng, B., & Sabeh, H. N. (2025). Unlocking employee creativity: How learning orientation and transformational leadership spark innovation through creative self-efficacy, *PLoS ONE*, 20(1). <https://doi.org/10.1371/journal.pone.0318606>
- Ramadhi, C., Setiawan, I., & Hartono, D. (2024). Digital fatigue and occupational stress in the agency industry, *Journal of Work Psychology*, 54 (1), 50-65. (PDF) *The Influence of Digital Fatigue and Occupational Stress on Quiet Quitting in Generation Y and Z in the Agency Industry*. Available from: https://www.researchgate.net/publication/394932856_The_Influence_of_Digital_Fatigue_and_Occupational_Stress_on_Quiet_Quitting_in_Generation_Y_and_Z_in_the_Agency_Industry [accessed May 18 2026].
- Santiago-Torner, C. (2025). Creativity and emotional exhaustion in virtual work environments: The ambiguous role of work autonomy, *Behavioral Sciences*, 15(2), 182. <https://doi.org/10.3390/bs15020182>
- Sholikhah, N. (2025). Digital fatigue and employee performance in the era of hyperconnectivity: A critical review of leadership interventions, *Journal of Idealistic Human Resources*, 1(1), 39-55.
- Supriyadi, T., Sulistiasih, S., Rahmi, K. H., Pramono, B., & Fahrudin, A. (2025). The impact of digital fatigue on employee productivity and well-being: A scoping literature review, *Environment and Social Psychology*, 10(2). <https://doi.org/1059429/esp.v10i2.3420>.
- Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.), Harper & Row
- Yang, Y., Yuan, L., Yang, S., & Lius, Z., (2025). How digital transformation shapes employee creativity: Insights from the ability-motivation-opportunity framework and qualitative comparative analysis, *Journal of Innovation & Knowledge*, 10(2). <https://doi.org/10.1016/j.jik.2025.100645>