Digital Ergonomics Analysis on the Productivity of Hybrid Workers in the Contemporary Indonesian Creative Industry

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Abstract.
The rapid growth of digital transformation and hybrid working systems has significantly changed work patterns in the contemporary Indonesian creative industry. Hybrid workers rely heavily on digital technologies, which create both opportunities for flexibility and challenges related to physical discomfort, cognitive overload, and communication fatigue. This study aims to analyze the influence of digital ergonomics on the productivity of hybrid workers in the Indonesian creative industry. The research employed a qualitative descriptive approach using the Narrative Literature Review (NLR) method. Data were collected from scientific journals, conference proceedings, books, and institutional reports published between 2016 and 2025 through databases such as Google Scholar, Scopus, and ScienceDirect. The analysis focused on physical ergonomics, cognitive ergonomics, communication ergonomics, and employee well-being in hybrid work systems. The findings indicate that digital ergonomics significantly affects worker productivity, creativity, psychological well-being, and work sustainability. Proper ergonomic work environments, balanced digital communication, effective workload management, and organizational support improve employee comfort, reduce fatigue and burnout, and enhance collaborative productivity within hybrid working environments in the Indonesian creative industry.
Keywords: *Digital Ergonomics, Hybrid Working and Employee Productivity.*

I. INTRODUCTION

The rapid development of digital transformation in recent years has significantly changed work patterns across various industrial sectors, including the creative industry in Indonesia. This transformation became increasingly prominent after the COVID-19 pandemic, which encouraged companies to adopt hybrid working systems as an adaptive strategy to achieve work flexibility and operational efficiency (Choudhury et al., 2021). Hybrid working allows employees to perform their duties alternately between home and office environments by relying heavily on digital technologies as the primary means of communication and collaboration (Aprilina & Martdianty, 2023). In the context of the creative industry, this work model has become highly relevant because most creative production activities depend on digital devices, collaborative applications, and intensive virtual connectivity (Florida, 2002). Nevertheless, the continuous use of digital technology also creates new challenges in the form of digital fatigue, postural disorders, and increased mental workload that may affect employee productivity (Suryoputro et al., 2016).

Digital ergonomics has become an important approach in creating a healthy and productive hybrid work environment. Digital ergonomics is not only related to the physical design of work devices but also includes aspects of human interaction with technology, visual comfort, digital workspace arrangements, and the balance of employees' cognitive workload (Wasi & Islam, 2024). The implementation of ergonomic principles has been proven to improve work comfort, reduce physical and mental fatigue, and increase work effectiveness in various industrial sectors (Arnita et al., 2020). In the creative industry, workers are required to maintain creativity and concentration for long working hours in front of computer screens; therefore, the quality of digital ergonomics becomes an important factor influencing their work performance (Hanafi & Maharani, 2024). Inappropriate digital workspace and hybrid workstation designs may also reduce focus, increase work stress, and decrease the quality of creative outputs (Rahaman et al., 2020).

The Indonesian creative industry itself has experienced rapid growth in the digital economy era. The Ministry of Tourism and Creative Economy of the Republic of Indonesia reported that the creative economy sector has become one of the important contributors to national economic growth through subsectors such as design, digital content, animation, advertising, music, and other creative media industries (Kemenparekraf, 2023). This growth has increased the demand for creative workers who are adaptive to technology-based work systems (Haryanti et al., 2025). In practice, hybrid workers in the creative industry face challenges such as changing work rhythms, shifting work environments, dependency on digital devices, and high multitasking demands that potentially increase both psychological and physical pressure (Putri, 2024). These conditions indicate that hybrid workers' productivity is not only determined by technical abilities but also by the quality of digital ergonomics that supports overall comfort and occupational health (Suarjana et al., 2022).

In addition to physical aspects, digital ergonomics is closely associated with mental workload and employees' psychological well-being. Hybrid work environments that rely heavily on virtual communication often lead to cognitive overload due to the simultaneous use of multiple digital platforms (Mo et al., 2026). In the creative industry, such conditions may affect workers' ability to generate innovative ideas and maintain consistent creativity quality (Haryanti et al., 2025). Previous studies have shown that hybrid workers tend to experience ambivalence toward digital technology because, on the one hand, technology increases work flexibility, but on the other hand, it may trigger emotional exhaustion and reduce direct social interaction (Aprilina & Martdianty, 2023). Therefore, a digital ergonomics approach is necessary to create a more humane, adaptive, and sustainable hybrid work system that supports the productivity of creative workers in the contemporary era (Lagomarsino et al., 2022).

Research on digital ergonomics among hybrid workers has become increasingly urgent because flexible working phenomena are expected to continue developing in the modern workplace. Many creative companies have started to adopt hybrid working systems as permanent work arrangements to improve organizational efficiency and flexibility (Putri, 2024). However, the implementation of such systems is often not accompanied by optimal digital ergonomics management, particularly in terms of workstation design, work-time arrangements, and mental health support for employees (Revy & Mutiara, 2022). If this issue is neglected, employee productivity may decline due to increased work fatigue, digital stress, and musculoskeletal health disorders (Anggara et al., 2024). Therefore, this study is important to provide a more comprehensive understanding of the relationship between digital ergonomics and the productivity of hybrid workers in the contemporary Indonesian creative industry.

Several previous studies have discussed the relationship between hybrid working, ergonomics, and work productivity. Aprilina and Martdianty (2023) found that hybrid work flexibility positively affects employee satisfaction and productivity. Hanafi and Maharani (2024) emphasized the importance of comfortable workspace design in improving creativity and productivity among creative industry workers. Meanwhile, Suryoputro et al. (2016) demonstrated that high mental workload in the creative industry significantly influences work performance. Another study conducted by Revy and Mutiara (2022) examined the effectiveness of hot-desking workstations in supporting more efficient hybrid working systems. Nevertheless, most previous studies mainly focused on physical ergonomics or work flexibility in general, while research specifically analyzing digital ergonomics and its influence on hybrid worker productivity within the Indonesian creative industry context remains limited.

Based on the background above, this study aims to analyze the influence of digital ergonomics on the productivity of hybrid workers in the contemporary Indonesian creative industry. This research is expected to contribute theoretically to the development of digital ergonomics and hybrid working system studies, as well as provide practical references for creative industry companies in designing healthier, more comfortable, and more productive digital work environments.

II. METHODS

This study employed a qualitative descriptive approach using the Narrative Literature Review (NLR) method to analyze the relationship between digital ergonomics and the productivity of hybrid workers in the contemporary Indonesian creative industry. The Narrative Literature Review method was selected because it enables researchers to comprehensively identify, examine, compare, and synthesize previous studies related to digital ergonomics, hybrid working systems, employee productivity, and the creative industry in the digital era (Rahman, 2018). In addition, literature review methods are widely applied in ergonomics and work environment studies to explain conceptual developments and research trends systematically (Firmansyah et al., 2023).

The data sources in this study consisted of secondary data obtained from scientific journal articles, conference proceedings, academic books, official institutional reports, and other relevant scholarly publications. Literature was collected through academic databases such as Google Scholar, Scopus, ScienceDirect, SpringerLink, Taylor & Francis, and Garuda. The literature search used keywords including “digital ergonomics,” “hybrid working,” “employee productivity,” “creative industry,” “digital workplace,” and “occupational ergonomics.” The selected literature was limited to publications from 2016–2025 to maintain relevance to contemporary digital work developments. The selection process involved identification, screening, content evaluation, and thematic classification stages (Wismashanti et al., 2023).

Data collection techniques were conducted through systematic literature searching and documentation studies. Relevant references were identified, categorized, and organized according to major themes such as digital ergonomics, digital occupational health, mental workload, hybrid work flexibility, and creative worker productivity. The collected data were then reduced and selected based on their relevance to the research objectives. This documentation technique is considered effective in providing both conceptual and empirical data from credible scientific sources (Aulia et al., 2025).

The data analysis method used in this study was content analysis combined with thematic analysis. The analysis process included data reduction, data presentation, interpretation, and conclusion drawing. Thematic analysis was applied to identify recurring issues and patterns within previous studies to provide a systematic understanding of digital ergonomics in modern hybrid work environments (Qomaruddin & Sa’diyah, 2024).

III. RESULT AND DISCUSSION

The Influence of Physical Digital Ergonomics on Hybrid Worker Productivity

The analysis findings demonstrate that physical digital ergonomics has a direct and substantial influence on the productivity, health, and work sustainability of hybrid workers in the contemporary Indonesian creative industry. Hybrid workers in sectors such as graphic design, animation, video editing, digital marketing, UI/UX design, photography, multimedia production, and content creation spend extensive hours interacting with digital devices including laptops, monitors, smartphones, editing software, and collaborative communication platforms. Such intensive interaction with digital technology makes workstation ergonomics a fundamental factor in maintaining employee productivity and physical well-being.

Poor ergonomic conditions commonly experienced by hybrid workers include inappropriate chair height, unsupported sitting posture, limited desk space, improper monitor positioning, inadequate lighting, excessive screen exposure, and prolonged static body posture. These conditions potentially trigger musculoskeletal disorders (MSDs), eye fatigue, neck pain, shoulder tension, lower back pain, headaches, and repetitive strain injuries. Research conducted in Indonesia emphasized that non-ergonomic work environments significantly increase physical discomfort, fatigue, and the risk of

work-related musculoskeletal disorders, ultimately reducing employee productivity and concentration levels (Setyawati et al., 2024).

A major issue identified in hybrid working systems is the inconsistency between office-based and home-based workstation ergonomics. Many Indonesian hybrid workers experience better ergonomic support in office environments compared to their home workspaces. Office workstations are generally equipped with ergonomic chairs, proper desks, better lighting systems, larger monitors, and organized workspace layouts, whereas home workspaces are often improvised using dining tables, sofas, beds, or compact spaces not originally designed for prolonged work activities. This ergonomic inconsistency creates adaptation difficulties that negatively affect work efficiency and employee comfort.

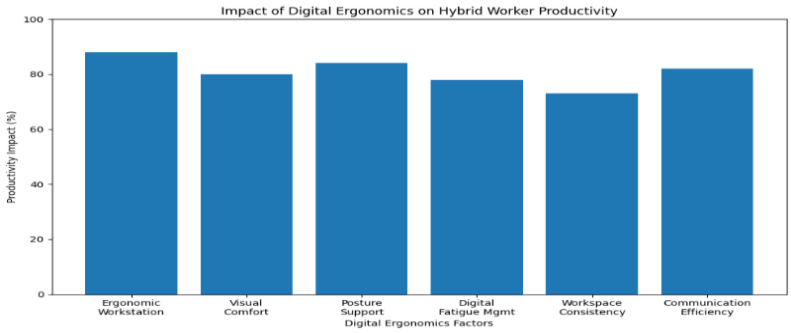

Fig. 1. Impact of Digital Ergonomics on Hybrid Work Productivity

This phenomenon became increasingly visible during the post-pandemic transition toward hybrid work systems in Indonesia. Many workers in digital and creative companies reported experiencing physical fatigue and reduced productivity while working remotely due to inadequate workstation arrangements at home. Research related to hybrid workplace environments found that seating arrangements, workspace design, and environmental comfort strongly influence concentration, mood, and productivity among hybrid workers (Rahaman et al., 2020).

A real example can be observed in Indonesia's creative industry centers in Bandung, one of the country's major hubs for creative production, fashion, visual communication, and digital content industries. Research conducted by Siska et al. (2019) examined ergonomic postural risks among workers in creative industry centers in Bandung and found that many workers performed repetitive tasks using poor body postures for prolonged periods. The study revealed a high risk of musculoskeletal disorders caused by non-ergonomic workstation conditions, repetitive movements, and prolonged sitting positions. These conditions reduced operator comfort and negatively affected work productivity and efficiency.

Another real case occurred in several Indonesian digital startup environments implementing hybrid working systems after the COVID-19 pandemic. Many employees working in digital creative divisions experienced eye strain, neck pain, and lower back discomfort due to prolonged laptop use without ergonomic support. Informal discussions among Indonesian workers on online communities also reflected that hybrid work productivity largely depends on the quality of home work environments. Workers who had ergonomic home workspaces reported feeling more productive and mentally refreshed, whereas workers with poor home environments frequently experienced distractions, fatigue, and reduced focus (de Souza Santos et al., 2024).

In addition, studies on ergonomics implementation in Indonesia emphasized that ergonomic intervention significantly improves employee productivity and reduces physical complaints. Ergonomic improvements such as adjustable workstations, proper sitting posture, adequate lighting, reduced repetitive movements, and workspace redesign have proven effective in minimizing fatigue and improving work performance across multiple Indonesian industries (Suparti et al., 2023). Although many of these studies were conducted in manufacturing and informal industries, the

ergonomic principles remain highly relevant to digital-based creative work environments because both involve repetitive activities and prolonged work durations.

The findings also indicate that physical digital ergonomics affects not only individual productivity but also organizational performance. Workers experiencing physical discomfort tend to lose concentration more quickly, require more frequent breaks, and show reduced task completion efficiency. In creative industries where innovation, visual precision, and idea generation are essential, physical fatigue can significantly decrease the quality of creative outputs. Therefore, maintaining ergonomic physical conditions becomes a strategic investment for companies seeking sustainable productivity in hybrid working environments.

From a practical perspective, Indonesian creative companies implementing hybrid work systems should prioritize ergonomic digital workplace design both in offices and remote settings. Companies may support employees through ergonomic chair allowances, monitor support equipment, workspace consultation programs, ergonomic training, flexible screen-time management, and digital wellness policies. Such interventions are essential to create healthier, more comfortable, and more productive hybrid work environments capable of sustaining employee creativity and long-term organizational performance.

Cognitive Ergonomics and Mental Workload in Hybrid Working Systems

The findings of this study demonstrate that cognitive ergonomics has a substantial influence on the productivity and psychological well-being of hybrid workers in the contemporary Indonesian creative industry. Cognitive ergonomics refers to the interaction between human mental processes and digital work systems, including attention, memory, decision-making, concentration, information processing, and emotional responses during work activities. In hybrid working environments, creative workers are continuously exposed to intensive digital interactions through laptops, smartphones, cloud collaboration platforms, virtual meetings, project management applications, and social media communication systems. As a result, the cognitive burden experienced by workers becomes increasingly complex and multidimensional.

In the Indonesian creative industry, hybrid workers are commonly required to manage multiple tasks simultaneously under strict deadlines and rapidly changing project demands. Graphic designers, digital marketers, video editors, animators, content creators, and social media specialists often perform multitasking activities while switching between communication platforms, editing software, collaborative applications, and online meetings within short periods. Such work patterns significantly increase mental workload and contribute to cognitive overload. Research conducted by Suryoputro et al. found that mental workload in creative industries is strongly associated with productivity issues because workers experience high cognitive pressure during prolonged digital work activities (Suryoputro et al., 2016).

One of the most dominant cognitive ergonomic problems in hybrid working systems is digital fatigue. Digital fatigue refers to mental and emotional exhaustion caused by excessive exposure to digital communication and prolonged technology use. Workers who continuously interact with screens, online meetings, notifications, emails, and collaborative applications frequently experience reduced concentration, emotional instability, mental exhaustion, and decreased creative performance. Recent Indonesian research regarding digital workload and technostress revealed that excessive digital work intensity significantly contributes to digital fatigue and negatively affects employee performance (Anggraini & Wulandari, 2025).

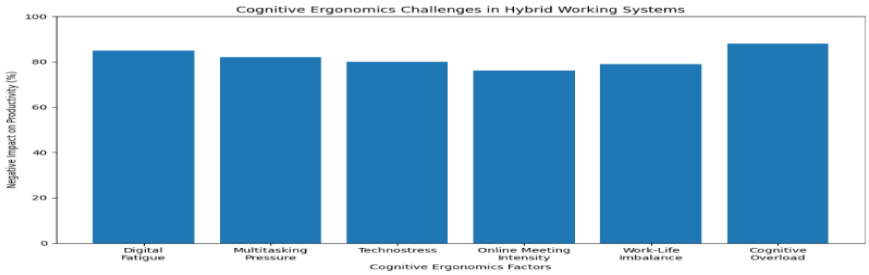

Fig. 2. Cognitive Ergonomics in Hybrid Work Systems

This phenomenon is highly relevant within Indonesia's creative industry because creativity and innovation depend heavily on workers' cognitive capacity and emotional stability. Unlike conventional industries, the creative sector relies primarily on idea generation, imagination, conceptual thinking, and artistic problem-solving. Therefore, mental fatigue directly influences the quality of creative outputs. Research conducted by Khusuma and Kodrat (2025) emphasized that digital fatigue significantly increases burnout and reduces employee creativity in digitally intensive work environments. The study also highlighted that prolonged digital communication outside working hours creates emotional exhaustion and decreases workers' innovation capacity (Khusuma & Kodrat, 2025).

A real case can be observed in Indonesia's rapidly growing digital content and startup industry, particularly in Jakarta and Bandung. Many employees working in creative digital agencies and startup companies are required to remain connected online almost continuously to monitor content performance, respond to clients, manage campaigns, and coordinate with teams across different time zones. During hybrid working implementation after the COVID-19 pandemic, workers frequently experienced "Zoom fatigue" caused by continuous virtual meetings and prolonged screen exposure. Employees reported difficulties maintaining focus, emotional balance, and creative energy after spending excessive hours in virtual collaborative activities. Studies on hybrid work resilience among Indonesian Generation Z employees in the creative sector revealed that workers often experience ambivalence toward digital technology because, while technology provides flexibility, it simultaneously increases psychological pressure and emotional exhaustion (Haryanti et al., 2025).

Another real example occurred among digital media workers and social media content teams in Indonesia. Employees in these sectors are frequently exposed to highly dynamic algorithms, audience engagement targets, and continuous content deadlines requiring rapid idea production and constant online responsiveness. Research on flexible working and digital media workers found that content-based jobs require workers to maintain continuous creativity while adapting to evolving technological demands, which often disrupt work-life balance and increase mental stress (Suryani et al., 2026).

In addition, hybrid working systems often blur the boundaries between work and personal life. Workers may receive messages, project revisions, and meeting invitations outside normal working hours because digital communication systems operate continuously. This condition contributes to cognitive overload and psychological stress. Research conducted on Indonesian hybrid workers during the post-pandemic transition revealed that workload intensity and extended working hours significantly affect employee stress levels within hybrid and remote working systems (Susilowati, 2023).

The analysis also indicates that technostress has become one of the major psychological challenges in the creative industry. Technostress refers to stress caused by the inability to adapt effectively to rapidly evolving digital technologies. Workers who constantly learn new platforms, software systems, and digital communication patterns often experience anxiety, fatigue, and reduced job satisfaction. A recent study on work stress in creative industries demonstrated that technostress significantly increases burnout and decreases employee innovation performance because workers feel pressured to remain digitally responsive at all times (Hermawati, 2025).

Nevertheless, the study findings also show that effective cognitive ergonomic practices can significantly improve worker productivity and well-being. Balanced workloads, structured digital workflows, healthy virtual meeting schedules, notification management, adequate rest periods, and organizational psychological support positively influence workers' mental resilience and creativity. Organizational support is particularly important in reducing burnout among hybrid workers. Research on Indonesian hybrid employees found that organizational support mechanisms positively improve employee well-being and reduce work-related burnout in hybrid systems (Dara et al., 2025).

From a practical perspective, Indonesian creative companies implementing hybrid work systems should pay greater attention to cognitive ergonomics alongside physical ergonomics. Organizations need to establish healthier digital working cultures through workload management, flexible communication policies, digital detox strategies, psychological support programs, and mental health awareness initiatives. Companies should also limit excessive online meetings, create clearer work-hour boundaries, and encourage employees to take regular cognitive breaks during prolonged digital activities. Such strategies are essential to maintaining creativity, emotional stability, innovation capacity, and sustainable productivity among hybrid workers in the contemporary digital creative industry.

Communication Ergonomics and Collaborative Productivity

The findings of this study indicate that communication ergonomics plays a crucial role in determining collaborative productivity within hybrid working systems in the contemporary Indonesian creative industry. Communication ergonomics refers to the effectiveness, comfort, clarity, accessibility, and efficiency of communication processes supported by digital technologies in work environments. In hybrid workplaces, employees rely heavily on digital communication platforms such as Zoom, Google Meet, Microsoft Teams, Slack, Trello, Notion, WhatsApp, and cloud-based collaboration systems to coordinate projects, exchange ideas, provide feedback, and maintain teamwork continuity. Consequently, the quality of communication systems directly affects work productivity, team cohesion, and employee engagement.

In the Indonesian creative industry, communication ergonomics becomes increasingly important because most creative projects are collaborative and multidisciplinary. Graphic designers, copywriters, editors, animators, social media specialists, UI/UX designers, photographers, and digital marketers often work simultaneously on interconnected projects from different locations. Therefore, ineffective communication systems may disrupt coordination processes, delay project completion, and reduce creative output quality. Research on virtual communication in hybrid workplaces emphasized that balanced synchronous and asynchronous communication, clarity of expectations, and psychological safety significantly improve team effectiveness and collaborative productivity in Indonesian hybrid organizations (Murtiharso, 2025).

One major challenge identified in hybrid communication systems is communication overload. Hybrid workers frequently experience excessive notifications, overlapping meetings, fragmented communication channels, and continuous digital interruptions throughout the workday. Employees are often required to simultaneously monitor emails, instant messaging applications, collaborative platforms, and virtual meeting schedules while maintaining productivity on creative tasks. Such conditions increase cognitive pressure and communication fatigue, reducing concentration and decreasing work efficiency. Studies on organizational communication in hybrid work environments revealed that communication overload and unequal digital readiness among workers significantly hinder productivity and teamwork quality (Sangapan et al., 2025).

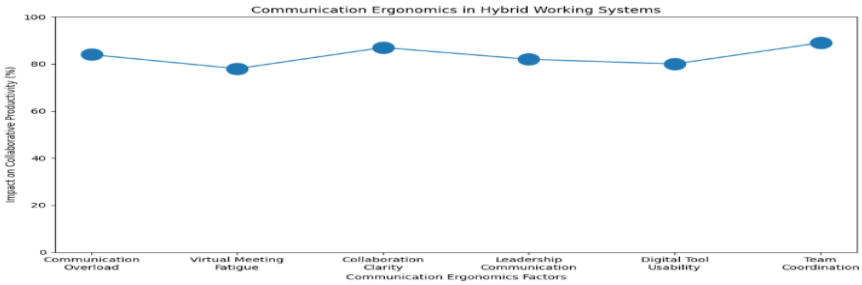

Fig. 3. Communication Ergonomics and Collaborative Productivity

Another important issue is the lack of communication clarity in virtual collaboration environments. In conventional face-to-face workplaces, employees can rely on nonverbal cues, spontaneous interactions, and immediate clarification during discussions. However, hybrid working systems often reduce these interpersonal communication qualities due to dependence on digital interfaces. Misinterpretation of written messages, delayed responses, unstable internet connections, and limited emotional interaction frequently create misunderstandings and coordination problems among hybrid teams. This situation is particularly critical in creative industries where collaborative idea exchange and rapid feedback cycles are essential for maintaining innovation and project quality.

A real example can be observed in Indonesia's digital marketing and advertising industry. A case study conducted at Olrange Digital Marketing and Advertising Agency in Indonesia revealed that hybrid working systems initially created communication barriers among employees during the adaptation phase. Workers experienced missed communication, delayed feedback, and coordination difficulties because communication flows had not yet been standardized within hybrid systems. However, after implementing clearer communication protocols, scheduled coordination systems, and structured digital collaboration practices, organizational communication climate improved significantly and employee productivity remained stable (Salsabila, 2023).

Another real case can be found at Infia Corporation, one of Indonesia's creative media and digital entertainment companies dominated by Generation Z employees. Research conducted by Karnaen and Pratama (2025) identified communication gaps between younger and older employees caused by differences in communication styles, digital tool preferences, and feedback mechanisms. Generation Z employees preferred fast, informal, and technology-centered communication, while senior employees often relied on more formal communication structures. To address these issues, the company implemented a hybrid communication model integrating formal and informal communication channels, two-way feedback systems, and standardized communication guidelines. These strategies successfully improved collaboration quality, employee inclusiveness, and organizational productivity.

The study also found that ergonomic communication systems positively influence employee engagement and psychological comfort. Employees who work within supportive communication environments tend to feel more connected to their teams despite physical distance. Digital communication systems characterized by clear workflows, accessible information, intuitive interfaces, and efficient meeting structures reduce communication stress and increase collaboration satisfaction. Research on internal communication practices in Indonesian startups implementing hybrid working systems showed that effective internal communication significantly improves employee performance, organizational engagement, and teamwork effectiveness (Dwiwarman et al., 2025).

Furthermore, leadership communication plays a major role in hybrid communication ergonomics. In hybrid environments, leaders must ensure that all employees, both remote and office-based, experience equal participation opportunities and access to information. Research on virtual leadership in Indonesian hybrid workplaces found that emotional regulation, trust-building, and empathetic communication are essential in maintaining team cohesion and productivity within hybrid

systems (Ratnaduhita et al., 2025). Without proper communication leadership, hybrid employees may feel socially isolated, excluded from decision-making processes, or less recognized compared to office-based workers.

The findings also indicate that communication ergonomics affects organizational innovation capacity. Creative industries depend heavily on spontaneous brainstorming, collaborative idea generation, and dynamic interaction among team members. Poor communication ergonomics may suppress creativity because workers become reluctant to participate actively in discussions or experience communication fatigue from excessive virtual interactions. Conversely, ergonomic communication systems encourage knowledge sharing, open discussions, and collaborative creativity, ultimately improving innovation performance and project outcomes.

From a practical perspective, Indonesian creative companies implementing hybrid work systems should prioritize communication ergonomics as part of organizational productivity strategies. Organizations need to establish structured communication policies, simplify digital communication channels, reduce unnecessary meetings, and create more balanced synchronous-asynchronous collaboration systems. Companies should also invest in user-friendly collaboration technologies, communication training programs, and digital leadership development to ensure effective hybrid coordination. In addition, maintaining psychological safety within digital communication environments is essential to encourage employee participation, creativity, and long-term engagement.

Overall, the analysis concludes that communication ergonomics significantly influences collaborative productivity, employee engagement, organizational cohesion, and innovation performance in hybrid working environments within the Indonesian creative industry. Effective communication systems supported by ergonomic digital technologies, adaptive leadership, and structured collaboration mechanisms are essential for sustaining productivity and creativity in the evolving digital workplace ecosystem.

The Role of Digital Ergonomics in Supporting Employee Well-Being and Work Sustainability

The findings of this study reveal that digital ergonomics plays a fundamental role in supporting employee well-being and long-term work sustainability within hybrid working systems in the contemporary Indonesian creative industry. In digital-based work environments, employees spend a significant portion of their daily activities interacting with screens, communication platforms, collaborative applications, and cloud-based systems. Consequently, the quality of digital work environments no longer affects only productivity but also directly influences psychological health, emotional stability, work motivation, and employee sustainability in maintaining long-term performance.

Digital ergonomics in hybrid work systems encompasses physical, cognitive, emotional, and organizational dimensions that collectively shape employee well-being. Ergonomic digital environments include balanced workloads, healthy screen-time management, flexible work schedules, psychologically supportive communication systems, ergonomic workstations, and digital technologies designed to minimize stress and fatigue. Employees who work in ergonomically supportive digital environments generally experience lower stress levels, stronger emotional resilience, higher work satisfaction, and improved work-life balance. Research on hybrid working implementation in Indonesian technology companies found that hybrid work positively affects employee well-being through improved flexibility, reduced work stress, and increased job satisfaction when supported by proper workload management and digital work systems (Putri, 2025).

One of the most important dimensions of digital ergonomics is psychological well-being. In hybrid work systems, employees are often exposed to prolonged digital communication, virtual meetings, multitasking demands, and continuous online connectivity. Without proper ergonomic management, these conditions may trigger emotional exhaustion, social isolation, stress, anxiety, and burnout. Employees who continuously receive work notifications outside office hours often

experience blurred boundaries between personal and professional life, resulting in decreased recovery time and emotional fatigue. Research conducted in Indonesia regarding hybrid working arrangements demonstrated that employee well-being improves significantly when organizations support work-life balance and employee satisfaction within hybrid systems (Nugroho & Desiana, 2024).

A real example can be observed in Indonesian digital startup ecosystems located in Jakarta and Bandung. Many startups initially adopted hybrid work systems to increase flexibility and operational efficiency after the COVID-19 pandemic. However, employees in creative divisions such as content production, social media management, graphic design, and digital marketing frequently reported experiencing digital fatigue and burnout due to excessive online communication and high performance demands. Workers often had to remain online beyond regular working hours to respond to clients, monitor digital campaigns, and maintain audience engagement metrics. This condition negatively affected sleep quality, emotional balance, and work motivation. Several Indonesian companies later introduced digital well-being policies, including flexible communication schedules, mental health support sessions, meeting-free hours, and workload balancing strategies to improve employee well-being and reduce burnout levels.

Another real case can be found in PT Teleperformance Surakarta, one of the Indonesian companies implementing hybrid work systems in the digital era. Research conducted by Hardyanto and Mardalis found that hybrid working positively influences employee productivity and well-being when supported by organizational flexibility and proper digital work management. The study revealed that employee well-being functions as a mediating factor between hybrid work systems and productivity outcomes. Employees who experienced healthier work environments and stronger well-being demonstrated higher productivity, engagement, and organizational commitment.

The analysis also indicates that organizational support is a critical component of digital ergonomics and employee sustainability. Hybrid workers require not only technological facilities but also emotional and institutional support from organizations. Employees who perceive strong organizational support generally experience lower burnout levels and stronger psychological resilience. Research conducted on Indonesian State Civil Apparatus employees found that perceived organizational support significantly reduces job burnout and positively improves employee well-being in hybrid working systems (Dara et al., 2025). This finding suggests that sustainable hybrid work systems depend heavily on organizational policies that prioritize employee mental health alongside operational performance.

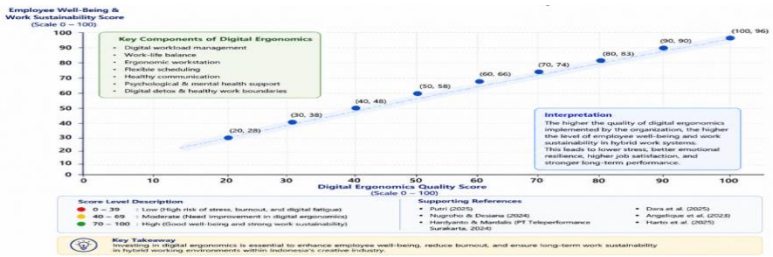

Fig. 4. The Relationship Between Digital Ergonomics and Employee Well-Being in Hybrid Work Systems

In addition, work-life balance emerges as an essential factor in sustaining employee well-being in hybrid environments. Hybrid systems provide flexibility that potentially improves employees' ability to manage personal and professional responsibilities. However, without clear digital boundaries and ergonomic work arrangements, flexibility may transform into excessive work intensity. Research conducted among employees in Jakarta found that differences in work systems (WFO, WFH, and hybrid work) significantly influence psychological well-being, work stress, and work-life balance (Angelique et al., 2023). Employees working within balanced hybrid systems

generally reported better emotional stability and lower psychological stress compared to workers experiencing uncontrolled digital workloads.

The study further found that digital competence and adaptive organizational culture strongly contribute to employee resilience and long-term work sustainability. Workers with strong digital competencies tend to adapt more effectively to hybrid systems and experience lower technostress levels. Research conducted on digital startup employees in Bandung demonstrated that digital competence and work-life balance significantly improve employee resilience in hybrid work environments (Harto et al., 2025). These findings highlight that sustainable hybrid working systems require both technological readiness and human-centered organizational cultures.

Moreover, digital ergonomics contributes to long-term organizational sustainability by reducing turnover intentions and increasing employee retention. Employees who feel psychologically supported and physically comfortable within digital work environments are more likely to remain engaged and committed to their organizations. Conversely, poor digital ergonomics may increase emotional exhaustion, dissatisfaction, and employee disengagement. In creative industries where innovation and creativity are core competitive advantages, maintaining employee well-being becomes strategically important because creative performance depends heavily on emotional and cognitive stability.

From a practical perspective, Indonesian creative companies implementing hybrid work systems should integrate digital ergonomics into organizational sustainability strategies. Companies are encouraged to provide ergonomic work facilities, flexible digital policies, mental health programs, digital detox initiatives, and balanced communication systems. Organizations should also establish healthier work-hour boundaries, encourage regular breaks, reduce unnecessary meetings, and provide psychological support mechanisms for employees experiencing burnout or digital fatigue. Additionally, leadership approaches in hybrid systems should emphasize empathy, inclusiveness, and employee-centered communication to strengthen organizational trust and engagement.

Overall, the findings conclude that digital ergonomics significantly influences employee well-being, psychological resilience, organizational engagement, and long-term work sustainability within hybrid working environments in the Indonesian creative industry. Sustainable productivity in digital workplaces cannot be achieved solely through technological advancement, but must also be supported by human-centered ergonomic systems that prioritize employee health, emotional balance, and overall well-being.

IV. CONCLUSION

This study concludes that digital ergonomics plays a crucial role in influencing the productivity, well-being, and work sustainability of hybrid workers in the contemporary Indonesian creative industry. Physical ergonomics, cognitive ergonomics, and communication ergonomics collectively affect employee comfort, concentration, creativity, and collaborative performance in digital work environments. Poor workstation design, excessive digital workload, communication overload, and blurred work-life boundaries contribute to physical fatigue, technostress, burnout, and decreased productivity among hybrid workers. Conversely, ergonomic digital environments supported by balanced workloads, effective communication systems, organizational support, and healthy digital work practices positively enhance employee performance, psychological resilience, and long-term engagement. The findings also emphasize that sustainable productivity in hybrid work systems cannot rely solely on technological advancement but must integrate human-centered ergonomic approaches that prioritize employee health and well-being. Therefore, Indonesian creative companies are encouraged to implement ergonomic workplace policies, digital wellness programs, flexible communication strategies, and mental health support systems to create healthier, more adaptive, and more productive hybrid work environments.

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