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Safe and productive digital workplace: Eco-ergonomic principles of organisation

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Abstract. The digitalisation of all work processes characterises the current reality. Consequently, information has emerged as the fundamental unit of these processes, with core operations revolving around the creation, reception, use, and exchange of information. This shift has prompted a fundamental transformation in work content, labour market dynamics, and the requirements concerning safety and ergonomic principles in workplace organisations. This research aimed to devise a strategy for developing digital workplaces, leveraging eco-ergonomic principles in their organisation. The “Work 4.0” concept was a foundational starting point for this research. Under the “Work 4.0” framework, traditional workplaces are evolving into digital ones by integrating digital devices and tools, alongside information ergonomics, green ergonomics, and ergoecology principles into work processes. The research introduced a model for a digital workplace and emphasised the necessity of adopting new eco-ergonomic principles for its organisation. The study also examined the company’s safety culture, as new working conditions necessitate a revision of the principles for ensuring worker safety. A connection between digitalisation and the development of a company’s safety culture was established, and the advantages of using digital technologies and tools to support this development were demonstrated. The formation of the digital workplace development strategy marked the final stage of the study. The “Work 4.0” concept, the revision and updating of ergonomic principles of work organisation under digitalisation, and the development of a company’s safety culture provided the foundation for the strategy. Its implementation ensures flexible work schedules, increased worker mobility, and a new level of workplace safety and comfort

Keywords: “Work 4.0” concept; ergoecology; green ergonomics; safety culture; sustainability

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Introduction

Workplace stressors, increasingly acknowledged as significant barriers to employee well-being, can profoundly affect health, safety, and overall productivity. Organisations often strive to cultivate a supportive and conducive working environment to address these challenges, taking into account each worker's unique characteristics and needs. Research consistently demonstrates that a well-structured and thoughtfully organised workspace, aligned with employees' strengths and limitations, can significantly mitigate stress and fatigue. This reduction not only enhances individual well-being but also decreases the likelihood of errors in daily operations. In this context, the role of designers is paramount. They are instrumental in fostering environments that promote workers' health, comfort, and productivity. By ensuring that materials, equipment, and overall workspace design correspond with individuals' psychological and physical attributes, designers contribute to a more effective working experience. Designers must embrace ergonomic principles to enhance both productivity and health in the workplace. Ergonomics optimises the interaction between people and their environments, creating efficient spaces that support the well-being of every employee.

O. Protasenko & G. Mygal (2023) have highlighted that the issue of information load has predominantly been addressed through cognitive ergonomics until recently. Researchers have emphasised the critical need to tailor information systems to align effectively with human cognitive capacities, although they have often overlooked the nuanced factors contributing to the complexities of intellectual labour. These neglected elements include challenges such as information overload and the negative effects of multitasking. A new interdisciplinary field has since emerged within ergonomics: information ergonomics. L. Shahrzadi *et al.* (2024) noted that its primary objective is to investigate and manage the burdens associated with information load, which significantly affect employees in high-demand, information-intensive work environments. Researchers emphasised that the essence of information ergonomics lies in synchronising user activities with the demands of the digital workspace. This field does not merely seek to remedy observable problems; it also aims to enhance employee productivity and overall well-being amid increasingly complex digital environments, while simultaneously developing effective strategies to optimise workplace organisation.

A. Moko *et al.* (2023) observed that information overload may stem from various sources, including complex work processes, convoluted organisational structures, diverse work environments, and prevailing behavioural patterns within teams. The research conducted by M. Caterino *et al.* (2023), along with the earlier studies of S. Schlund *et al.* (2022), and O. Protasenko & G. Mygal (2024), underscored several recurring scenarios that contribute to information overload. A key concern is the complexity involved in managing, using, and storing vast amounts of information. When the volume of incoming information surpasses its quality, employees often find themselves

overwhelmed, dedicating excessive time to sifting through data to locate essential information, which inevitably results in information overload. Another substantial contributor to this problem is the constant state of multitasking and an incessant barrage of interruptions. By definition, multitasking involves the simultaneous execution of multiple tasks, leading to unavoidable disruptions as individuals switch between varied activities. This continuous shift demands additional cognitive resources and intensifies the experience of information overload. Intentional breaks that diverge from primary work tasks, such as checking emails or scrolling through social media, further compound this mounting pressure.

A poorly structured workplace can significantly increase employees' cognitive and temporal demands as they attempt to manage, memorise, and reallocate information effectively. For example, multiple information systems can drastically increase cognitive load, especially when employees face lengthy and intricate task chains that can overwhelm working memory. Research by J. Pongsak *et al.* (2020), O. Lazko *et al.* (2021) and M. Khan *et al.* (2024) has identified information overload as a leading contributor to office syndrome among workers. This syndrome is associated with a range of detrimental health conditions, including obesity, hypertension, diabetes mellitus, dry eyes, neurological disorders, and carpal tunnel syndrome, highlighting the urgent need to address the growing challenges of information ergonomics in modern workplaces. The amount of time individuals dedicate to digital work environments has steadily and significantly increased in recent years. While opening new avenues for productivity, this shift has also introduced the challenge of information overload, which can adversely affect worker well-being and overall efficiency.

To effectively address this complex issue, it is imperative to recalibrate the volume and organisation of information presented to employees and to implement innovative strategies for workplace arrangement. The field of ergonomics is central to this endeavour and plays a crucial role in developing principles that ensure optimal workplace conditions amidst the ongoing wave of digital transformation. Focusing on the ergonomic aspects of the workspace may mitigate the adverse effects of prolonged digital engagement and lay the foundation for more sustainable practices in the future. This study aimed to apply eco-ergonomic principles in digital workplace design to enhance health and productivity, and to develop a strategy for its further advancement.

Materials and Methods

The study employed an integrated blend of general scientific and specialised research methodologies to enable a rich, multidimensional exploration of the subject matter. Among the general scientific methods used were analytical reviews, systematic and interdisciplinary approaches, and comparative analysis. These methodologies were instrumental in identifying essential trends, recurring patterns, and complex interconnections within the research landscape. The

systemic approach considered workplace optimisation under digitalisation as a multifaceted phenomenon shaped by numerous interrelated factors that require careful examination. The interdisciplinary approach drew upon various scientific fields to construct a cohesive and comprehensive understanding of the subject, while comparative analysis yielded valuable insights through the evaluation of existing research, methodologies, and workplace optimisation strategies across different contexts and disciplines.

The methodological and theoretical framework of this study was firmly rooted in the contributions of leading experts in ergonomics, ecology, psychology, and information technology. Drawing upon these established theoretical perspectives and principles effectively guided the research process. In the domain of ergonomics, core principles relating to workplace design, human-machine interaction, and productivity were integrated into the analysis, deepening understanding of optimal digital workplace arrangements (Wodajeneh *et al.*, 2024). Eco-centric perspectives were adopted to examine the sustainability of workplace environments, ensuring that digital transformation does not lead to increased resource consumption or negative ecological consequences (Reiman *et al.*, 2021). Psychological theories were carefully applied to explore employees' cognitive and behavioural dynamics as they adapt to evolving digital work environments. Meanwhile, insights from information technology highlighted the role of digital tools and technological developments in shaping modern workplace configurations. The interdisciplinary nature of this research stemmed from the growing need to synthesise developments across diverse academic disciplines. The study drew upon multiple domains to establish a more comprehensive and practically applicable framework for workplace optimisation (Amani & Akhavian, 2024).

The empirical basis of the research was formed through a detailed analysis and critical evaluation of workplace ergonomic provisions, incorporating both qualitative and quantitative data sources. It examined ergonomic conditions and their effects on employee productivity, health, and well-being (Souchet *et al.*, 2023). The study also included findings by Ukrainian scholars (Chigrin & Scherbak, 2011) concerning workplace eco-friendliness, assessing sustainable practices and environmental considerations central to workplace design. Through this extensive exploration of multiple dimensions, the research offered a thorough evaluation of how workplace organisation can be improved in the digital era while adhering to human-centred and environmentally responsible approaches.

The eco-ergonomic structuring of the digital workplace was based on practical studies focused on workplace organisation. These studies helped to identify existing challenges and explore potential solutions related to digital workplace design. Between 2019 and 2023, a series of investigations was undertaken into the eco-ergonomic organisation of workplaces. Specifically, the eco-ergonomic conditions of work environments for managers, students, and engineers in both offline and online settings were evaluated. These roles were selected as the participants performed similar types of tasks. A total of 108 participants took part in the study, which was carried out following the European Commission's Guidance Note on Ethics and Data Protection (2021). The research was conducted at the printing company "Polyemos" (Kharkiv, Ukraine) and the Simon Kuznets Kharkiv National University of Economics (Kharkiv, Ukraine). A simplified example of the eco-ergonomic assessment of digital workplace organisation (covering only a few selected elements from the complete list) is presented in Table 1.

Table 1. Sample eco-ergonomic assessment of digital workplace organisation

No.	Characteristics of the digital workplace	Eco-ergonomics (points)
Eco-friendliness of enterprise infrastructure:		
1	dedicated parking areas	5
2	unregulated car parking	1
Building eco-friendliness:		
3	concrete structure	5
4	brick structure	4
5	breeze block construction	3
	⋮	⋮
	Overall score:	

Source: compiled by the authors

The eco-ergonomic assessment of the digital workplace organisation included sixteen characteristics. Each feature was evaluated on a scale from 1 to 5 points. One point indicated an unsatisfactory level of eco-ergonomics, while five points reflected a satisfactory level. Upon completing the assessment, it was necessary to determine the overall eco-ergonomic rating of the digital workplace. This was categorised as unsatisfactory, average, or satisfactory. For research convenience, the assessment was offered in two

formats: a printed version for offline participation and an online version via the free web-based platform "Online Test Pad" for remote participation. The format used was determined by the participants' work schedules.

Results and Discussion

The research led to the identification of several eco-ergonomic principles for workplace design. The use of eco-friendly materials is pivotal in the construction of

workplace furniture and technical equipment. This principle underscores the importance of selecting sustainable materials that minimise environmental impact, alongside ergonomically designed components that support physical wellbeing. Careful consideration was given to the sustainability of finishing materials used in office decor – including, but not limited to, flooring, ceiling tiles, wall coverings, and other aesthetic features of the workspace. The choice of these materials can significantly influence the environmental footprint of the office as well as the health and comfort of its occupants.

The implementation of eco-safe and energy-efficient systems is essential to enhancing the overall workplace quality of life. This includes key support systems such as advanced ventilation, intelligent air conditioning, energy-efficient heating, and a balanced integration of artificial and natural lighting. Workspace design should go beyond the interior layout to encompass external infrastructure. This involves evaluating the sustainability of construction materials, organising parking facilities to support greener modes of transport, and integrating green spaces that promote biodiversity and employee well-being. Energy efficiency assessments, including audits and retrofitting initiatives, are also vital components of sustainable workplace planning.

Engaging employees in comprehensive eco-safety training programmes is a critical practice for raising awareness of environmental safety both in the workplace and at home. These sessions introduce employees to key principles of a safety-oriented workplace culture and emphasise their contribution to broader sustainability goals. It is equally important to monitor and assess the sociopsychological climate

of the team. This includes analysing employees’ psychological responses to changes in their working environment, thereby fostering a responsive and supportive organisational culture. By embedding eco-ergonomic principles into workplace organisation, companies can enhance multiple aspects of sustainable development. A focused effort within the ecological dimension aims to mitigate the adverse effects of hazardous workplace factors on employee health. These impacts can be quantitatively reduced through the use of environmentally friendly materials and the adoption of eco-safe and energy-efficient technologies, thereby decreasing the organisation’s overall environmental footprint.

The social dimension addresses the eco-ergonomic needs of employees, with the goal of reducing the likelihood of negative psychological outcomes such as depression, stress, and absenteeism. It highlights the importance of a holistic approach to promoting employee well-being and productivity. From an economic perspective, the integration of environmental and ergonomic principles not only improves staff performance and satisfaction but can also enhance financial outcomes by lowering costs related to sick leave, medical treatment, and energy use. Ultimately, the adoption of eco-ergonomic practices improves both safety and efficiency in the workplace while aligning with the principles of sustainable development. A model of the digital workplace has been proposed, building on this foundation. It integrates the principles of information ergonomics, green ergonomics, and ergoecology. This model aims to provide safe and comfortable working conditions while mitigating the negative impacts of human activities on the environment (Fig. 1).

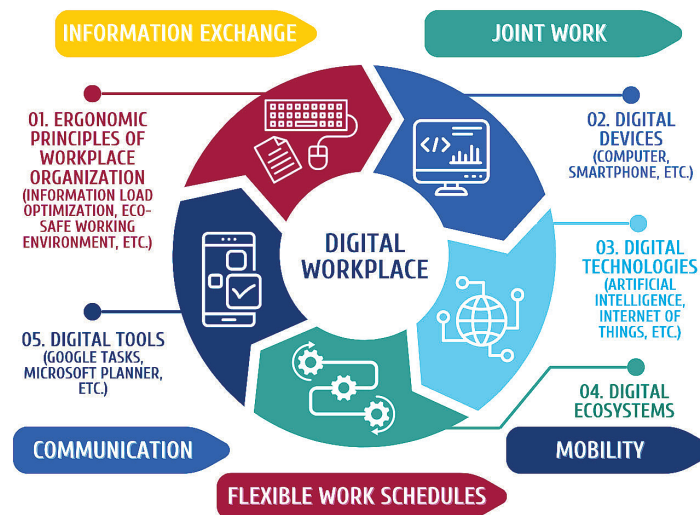


Figure 1. Model of the digital workplace

Source: author’s development

The model outlines that the digital workplace comprises several key components, including digital devices such as smartphones, computers, and tablets; technologies such as cloud computing, the Internet of Things (IoT), Big Data, machine learning, and virtual reality;

ecosystems such as ehealth and fintech; and tools like Zoom, Google Meet, Padlet, and Google Docs. Central to this model is the application of ergonomic principles to workplace organisation, which ensures the coordinated functioning of these components. It is important to note

that the structure of the digital workplace is non-standardised, allowing for a diverse range of business applications, online meeting platforms, email services, and other digital tools to be effectively combined into a cohesive digital workspace.

External indicators within the model illustrate the advantages that companies gain by integrating digital workplaces into their operations. Through digitalisation, organisations can enhance communication and foster interaction among employees both within and across departments. Digitalisation accelerates the processes of information retrieval and exchange, thereby improving employee efficiency. The digital workplace supports flexibility in task execution, encourages collaboration and interaction, and enhances the ability to locate and share information. It fosters a mobile and interactive work environment and offers a wide array of technological options for task completion. Furthermore, the benefits of adopting a digital workplace include reduced costs associated with hardware, office space, and business travel, among others (Attaran *et al.*, 2020; Stahn *et al.*, 2022; Kolade & Owoseni, 2022). For instance, by implementing cloud-based solutions, businesses can minimise reliance on physical servers and hardware, as most data storage and software tools are accessible online. This reduces the need for expensive equipment upgrades and ongoing maintenance. Remote working capabilities diminish the requirement for physical office space and infrastructure, enabling employees to work from home using their personal devices. As for business travel, video conferencing platforms, online collaboration tools, and project management software reduce the need for in-person meetings, thus lowering travel expenses.

According to expert forecasts, future success will be achieved by companies that can effectively unite their workforce into cohesive teams, increase workplace mobility and flexibility, and empower employees to remain productive and creative regardless of location. The adoption of digital workplaces will be key to accomplishing these objectives. Digital transformation plays a critical role in fostering a culture of safety within organisations, where behavioural change paves the way for improved human safety across a variety of operational contexts. A strong safety culture is fundamental to a company's sustainable development, requiring staff members to coordinate various activities to ensure seamless operations. As the nature of work evolves and workplaces transition into digital environments, the interplay between safety culture and digital transformation is becoming increasingly significant. A robust safety culture enables an organisation to maintain a secure working environment for its employees. When individuals within a company prioritise safety, operations are conducted with the highest level of care, significantly reducing the risk of accidents. Conversely, a weak safety culture suggests that safety may not be taken seriously by all, leading to complacency and unnecessary risks, which increase the likelihood of incidents that compromise

employee health and safety. A strong safety culture within a company serves as an effective means of promoting employee safety in the workplace. Consequently, analysing the transformation of safety culture in the context of digitalisation and its effects on workplace development is essential. Research on safety culture amid digitalisation has yielded the following findings.

Digitalisation significantly enhances workplace safety through various means. Firstly, the adoption of digital safety monitoring tools allows for more effective identification and management of potential hazards. These technological advancements enable rapid responses to emerging issues, providing employees with immediate access to crucial data and facilitating timely corrective actions. Digitalisation also streamlines safety reporting within organisations. Simplifying processes such as incident reporting ensures that a company's safety status is monitored in real time, allowing swift resolution of issues and resulting in improved health and safety conditions for all workers. Digital tools foster improved team communication and collaboration when addressing safety concerns. With real-time hazard monitoring, teams can analyse situations swiftly and make informed decisions that uphold workplace safety standards. Another important benefit of digitalisation is its role in strengthening regulatory compliance. Digital technologies assist organisations in tracking and documenting safety-related activities, helping them demonstrate adherence to relevant regulations and standards. By implementing digital workplace safety solutions, companies can actively mitigate risks and cultivate a strong safety culture. This commitment not only enhances regulatory and industry compliance but also strengthens the company's reputation. By demonstrating a commitment to employee welfare and continuous improvement, organisations can project a positive image within the industry and to customers, emphasising their dedication to workplace safety and employee well-being.

The research yielded the following conclusion: digitalisation has led to the widespread adoption of digital technologies and ecosystems, resulting in transformations in labour organisation and changes in labour market demands. Consequently, there emerged a need to establish a new approach to work organisation, known as the "Work 4.0" concept. This innovative framework has prompted the exploration of new ergonomic solutions aimed at enhancing workplace safety and comfort, thereby supporting the development of a robust safety culture within organisations. Establishing the "Work 4.0" concept, revising and enhancing ergonomic work organisation principles in response to digitalisation, and promoting a company's safety culture have laid the groundwork for a digital workplace development strategy. This strategy integrates digital technologies, tools, and ecosystems into a cohesive framework, enabling flexible work schedules, enhancing employee mobility, and elevating workplace safety and comfort to a new standard. Based on these insights, a digital workplace development strategy was formulated (Fig. 2).



Figure 2. Digital workplace development strategy

Source: author’s development

Such a strategy will improve the efficiency, safety, and comfort of the digital workplace. Digitalisation has prompted a re-evaluation of strategies aimed at ensuring human safety. This transformation is evident in the evolving perspectives of both workers and employers regarding safety issues. There has been a significant rise in demand for safe digital work environments, increased expectations around workplace risk levels, and a growing need to foster a strong safety culture.

M. Hovanec *et al.* (2024) and F. Tomelleri *et al.* (2024) have observed that the integration of innovative technologies in production has expedited the digital transformation of management and operational processes while altering the skill sets required of workers. Accordingly, enterprises require efficient digital solutions for routine processes in business environment. Implementing these technologies can significantly reduce the time needed to complete tasks, alleviate work monotony, and enhance overall productivity. As a result, this reduces production risks and injuries while fostering an improved safety culture. Consequently, as noted by A. Kolot & O. Herasymenko (2020) and K. Kraus *et al.* (2022), the integration of digital technologies, robotics, nanotechnology, artificial intelligence, and other innovations is transforming labour dynamics, labour market conditions, and workplace safety requirements, giving rise to the concept of “Work 4.0”.

The “Work 4.0” concept signifies a new era in labour relations, characterised by a significant rise in digitalisation within work processes and increased organisational flexibility. Research findings indicate that the primary drivers of the “Work 4.0” movement are Industry 4.0 and digital ecosystems. These developments underscore the need to incorporate aspects into digital workplace organisation that were previously overlooked: structuring work processes to enable flexible schedules for remote employees, regardless of geographic location; developing employee competencies to create a new skill set encompassing effective digital

communication and collaboration, self-directed growth in uncertain conditions, creative problem-solving, information and data management, and critical thinking; and prioritising safety measures aimed at designing ergonomic workplaces to minimise injury risks and promote a robust safety culture. This concept has prompted O. Kolade & A. Owoseni (2022) and C. Stahn *et al.* (2022) to redefine the notion of the workplace. With the advent of digitalisation, jobs have become more mobile, and work schedules have gained flexibility. These changing working conditions necessitated a re-evaluation of the principles governing ergonomic workplace organisation. As a result, the “Work 4.0” concept has transformed the traditional workplace into a digital one. As A. Thomas *et al.* (2023), O. Protasenko & G. Mygal (2023) and B. Hasanain (2024) have observed, a digital workplace encompasses digital devices, technologies, ecosystems, tools, and the principles of information ergonomics, green ergonomics, and ergoecology.

The findings of independent investigations conducted by B. Hasanain (2024) and O. Protasenko & G. Mygal (2024) indicated that implementing the principles of green ergonomics and ergoecology in the digital workplace is essential, as the digitalisation of human activity is inseparable from the need for environmental sustainability. This conclusion is reinforced by the results of the present study. Digitalisation facilitates the rapid resolution of complex problems, while ecological practices reduce environmental burdens. Working in tandem, digitalisation and ecological integration act as key drivers of society’s gradual transformation into an eco-digital society. Evidence of this is reflected in the widespread adoption of Industry 4.0 technologies, digital ecosystems, digital workplaces, cloud technologies, and “green” energy solutions (such as wind farms, solar panels, and tidal stations), along with the implementation of zero-waste technologies and the greening of work and domestic environments. This shift has led to the progressive replacement of human labour with digital technologies

and tools, the adoption of automation and robotisation, and the transition from traditional offline formats of work and study to online modes. These developments reduce the need for face-to-face interaction, promote the selection and use of eco-friendly products, and minimise reliance on energy-intensive technologies and devices. It should be noted that the transformation into an eco-digital society is a global phenomenon; however, its intensity varies across different world regions. Accordingly, O. Protasenko & G. Mygal (2024) emphasise that the ecologisation of work is an integral component of the digital workplace.

Scientific studies by T.A. Norton *et al.* (2021) and K. Değer & H. Başak (2022) have demonstrated that a fundamental principle of green ergonomics and ergoecology is the provision of eco-safe workplaces; without this, ensuring comfort and safety at work is unattainable. This conclusion is worth endorsing. Green ergonomics, ergoecology, and information ergonomics have emerged in response to the need to reconsider approaches to safeguarding worker well-being in modern workplaces. In the context of ongoing environmental degradation, sustainable development cannot be achieved without rethinking workplace organisation. Thus, green ergonomics and ergoecology prioritise the enhancement of ecological aspects within ergonomic workplace design. Accordingly, these disciplines focus on developing eco-friendly workplaces and systems that foster environmentally responsible behaviour among workers. Their primary tool is the eco-ergonomic organisation of the workplace – an approach aimed at achieving an optimal combination of working conditions and technical support that aligns with contemporary engineering, environmental, social, and psychophysiological standards. This tool was applied in digital workplace research and yielded positive outcomes, as previously described.

Conclusions

A defining hallmark of contemporary organisational activities is the comprehensive digitalisation of work processes. Integrating advanced digital technologies, cutting-edge tools, expansive ecosystems, artificial intelligence, and various digital solutions is fundamentally transforming the nature of work, reshaping labour market dynamics and intensifying demands for workplace safety. This evolution gives rise to the “Work 4.0” concept, which represents a significant shift in labour relations and workplace paradigms. Within the “Work 4.0” framework, the traditional workplace is significantly redefined, evolving into what may be described as a digital workspace. This innovative organisational model relies heavily on various digital devices and

tools that facilitate seamless communication, collaboration, and productivity. It also incorporates the principles of information ergonomics – optimising information flow and usability, green ergonomics, prioritising sustainability in design and processes, and ergoecology, which focuses on the broader ecological implications of workplace design.

The research proposes a comprehensive model for the digital workplace, underscoring the essential role those ergonomic principles play in its practical implementation. The study strongly emphasises the importance of cultivating a robust safety culture within organisations. As the work environment continues to evolve, there is a pressing need to reassess and adapt traditional workplace safety frameworks. The findings illustrate a clear connection between the ongoing digitalisation of work processes and the enhancement of organisational safety culture, demonstrating how the effective use of digital technologies can foster a safer, more responsive work environment. A well-structured digital workplace development strategy was formulated during the final phase of the study. This strategy is anchored in the principles of “Work 4.0”, involving a thorough reassessment and modernisation of ergonomic standards in light of digitalisation, as well as a forward-thinking approach to strengthening organisational safety culture. Implementing this strategy is expected not only to support more flexible work schedules and enhance employee mobility but also to significantly improve workplace safety and overall comfort. As organisations transition into this new paradigm, the potential for increased operational efficiency and employee satisfaction becomes increasingly achievable. Further research could examine the practical implementation and long-term effects of the proposed digital workplace development strategy across various sectors. Comparative case studies could evaluate how eco-ergonomic principles affect employee well-being, productivity, and safety culture in digital settings. In addition, future studies should explore emerging technologies, such as AI, IoT, and virtual reality, and their role in shaping the next generation of digital workplaces, particularly about adaptability, inclusivity, and sustainable development.

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Безпечне та продуктивне цифрове робоче місце: еко-ергономічні принципи організації

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Анотація. Характерною рисою сучасною дійсності є цифровізація всіх робочих процесів, через що інформація стала їх основною одиницею. Основні операції зосереджені навколо створення, отримання, використання та обміну інформацією. Ця зміна спонукала до фундаментальної трансформації змісту роботи, динаміки ринку праці та вимог щодо безпеки та ергономічних принципів організації робочого місця. Метою дослідження було розробити стратегію розвитку цифрових робочих місць із застосуванням еко-ергономічних принципів у їх організації. Під час роботи було застосовано системний та міждисциплінарний підходи, порівняльний аналіз, ергономічні, екологічні, психологічні та інформаційно-технологічні теоретичні засади. Концепція “Робота 4.0” стала основоположною відправною точкою для цього дослідження. Визначено, що у рамках концепції “Робота 4.0” традиційні робочі місця перетворюються на цифрові шляхом інтеграції цифрових пристроїв та інструментів разом із принципами інформаційної ергономіки, зеленої ергономіки та ергоекології в робочі процеси. У дослідженні представлена модель цифрового робочого місця та підкреслена необхідність прийняття нових еко-ергономічних принципів для його організації. У роботі приділена увагу вивченню культури безпеки на підприємстві, оскільки нові умови праці вимагають перегляду принципів забезпечення безпеки працівників на робочому місці. У процесі дослідження встановлено зв'язок між цифровізацією та розвитком культури безпеки компанії, а також показані переваги використання цифрових технологій та інструментів для її розвитку. Завершальним етапом дослідження стало формування стратегії розвитку цифрового робочого місця. Концепція “Робота 4.0”, перегляд та оновлення ергономічних принципів організації праці в умовах цифровізації та розвиток культури безпеки компанії створили основу для формування стратегії. Її впровадження забезпечує гнучкий графік роботи, мобільність працівників, новий рівень безпеки та комфорту на робочому місці

Ключові слова: концепція “Робота 4.0”; ергоекологія; зелена ергономіка; культура безпеки; сталий розвиток