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Mapping the Research Landscape of Organisational Ergonomics and Business Development: A Bibliometric Analysis of Scopus-Indexed Publications

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Abstract

This study maps the research landscape of organisational ergonomics and business development through a bibliometric analysis of Scopus-indexed publications. The aim was to identify publication trends, recurring keywords, and main themes in this interdisciplinary field. The analysis was based on a final corpus of 15 documents that were published between 2015 and 2025, selected through filtering and manual screening. The findings show that the field is uneven but continues to evolve, with three main themes: sustainability and socio-technical development, organisational change and learning, and innovation, usability, and digital transformation. The results also suggest that the link between organisational ergonomics and business development is often mentioned in an implicit manner, appearing under terms such as performance, competitiveness, adaptability, and value creation. Overall, the study offers a clearer view of a fragmented but relevant field for business and management research.

Keywords: Organisational ergonomics, business development, bibliometric analysis, organisational change, human factors and ergonomics, sustainability

INTRODUCTION

In recent years, organisational ergonomics has gained increasing relevance in discussions about performance, sustainability, innovation, and organisational development. While ergonomics has

traditionally been associated with physical working conditions and human-machine interaction, more recent research shows that it also plays an important role in wider organisational processes, including change management, digital transformation, learning, and business performance. This change of perspective reflects that organisations can function more effectively when work systems, technologies, and organisational structures are designed around human needs and their capabilities. At the same time, business development has become a key concern for organisations operating in dynamic and complex environments. Issues such as competitiveness, adaptability, sustainability, and value creation now depend not only on strategy and technology, but also on how work is organised and how people interact with systems and processes. In this context, organisational ergonomics offers a useful perspective, as it connects human-centred design with organisational and managerial objectives. However, the existing literature in this area remains scattered across multiple fields, including engineering, management, sustainability, design, psychology, and digital systems. As a result, it is difficult to have an overall view of how organisational ergonomics and business development are connected in current research. Although relevant studies do exist, the field remains fragmented, and its main themes and patterns are not always easy to identify.

This study aims to map the research landscape of organisational ergonomics and business development through a bibliometric analysis of Scopus-indexed publications. By identifying publication trends, keyword patterns, and thematic clusters, this study seeks to provide a clearer picture of the main directions in this field and to highlight its relevance for business and management research.

LITERATURE REVIEW

Organisational ergonomics is a concept that has developed beyond the classical approach of ergonomics which implies physical working conditions. Recent studies now cover a wider variety of organisational issues, such as digital transformation, employee well-being, sustainability, organisational change and business performance (Nascimento, 2020; Norton et al., 2021; Spath & Braun, 2021; Witchel & Westling, 2019). In its broader sense, organisational ergonomics examine the interaction between people, technology, processes and work systems, in order to improve both human well-being and organisational success (Witchel & Westling, 2019). This broader perspective plays an important role for business development. Research shows that the performance of an organisation does not only depend on strategy or technology, but also on how the work systems are designed to fit the needs of the people. For example, in logistics, ergonomics have been linked to productivity, quality and agility, therefore showing that human factors are just as important in operational environments as being effective from a technical point of view (Loos et al., 2016). Similar ideas can be found in digital manufacturing, where designing a human-centered work is a part of the competitiveness and development of a business rather than only a health and safety issue (Spath & Braun, 2021).

The literature also connects organisational ergonomics with organisational change. Studies in this area suggest that change means more than formal strategies or managerial tools. Culture, work practices and the reality that employees live everyday shape whether change becomes a success in the long term (Nascimento, 2020). This makes ergonomics relevant to organisational development, especially since businesses need to adapt quickly.

Another major theme is sustainability. Several authors argue that ergonomics support sustainable development, because they improve the organisational processes, reduce risk and strengthen the social dimension of the business (Negulescu et al., 2022; Norton et al., 2021). Research on green ergonomics

shows that workplace design can contribute to environmental goals, employee well-being and the development of a more sustainable organisational culture (Norton et al., 2021). This suggests that ergonomics is becoming an important part of long-term strategic planning.

Further research shows that ergonomics is linked to innovation, usability and value creation. Studies on inclusive and customer-centred design reveal that the principles of ergonomics can become part of business transformation (Bendixen & Benktzon, 2015; Chamberlain et al., 2015). In these cases, usability and accessibility are treated as both ethical concerns and as sources of customer value and competitive advantage (Bendixen & Benktzon, 2015; Chamberlain et al., 2015). Research on workplace culture and creativity also supports this view, by showing that the work environment can influence innovation and motivate employees to generate good ideas (Mulaomerovic et al., 2019). At the same time, the literature remains fragmented. Research on organisational ergonomics is spread across multiple fields, such as sustainability, logistics, digital systems, organisational change, design and business strategy (Loos et al., 2016; Negulescu et al., 2022; Norton et al., 2021). The field might be interdisciplinary, but it is also dispersed. This makes it difficult to see its overall structure, key themes and development over time.

With this reason in mind, a bibliometric analysis is important for the topic. It can provide an overview of publication patterns, key themes and research connections. In this study, bibliometric analysis is used to map how organizational ergonomics and business development are linked in Scopus-indexed publications.

THE RESEARCH APPROACH

This study used a bibliometric approach to map the research landscape of organizational ergonomics and business development. The Scopus database was selected as the source of bibliographic data because it covers peer-reviewed academic publications across multiple disciplines. The search was based on the terms “organizational ergonomics” and “business development”, applied to the article title, abstract, and keywords fields in Scopus. The initial search returned 58 documents.

To refine the dataset, multiple filters were applied. First, the publication period was set to 2015–2025, which reduced the number of records to 31 documents. Second, the subject areas were restricted to Engineering, Computer Science, Social Sciences, Business, Management and Accounting, Psychology, Economics, Econometrics and Finance, and Arts and Humanities. After this step, the final dataset included 28 documents.

The records were exported in CSV format and processed in Microsoft Excel. The extracted fields included authors, titles, abstracts, and keywords. Only English-language publications were included in the analysis. In addition, records that were not relevant enough to the topic were excluded after screening the abstract. From the remaining publications, some full texts were not available for download. This narrowed the final sample, consisting of 15 Scopus-indexed documents, all of which were included in the bibliometric analysis.

The analysis focused on three main topics: publication trends by year, keyword co-occurrence, and thematic clusters. Publication trends were used to observe the evolution of scholarly interest in the topic over time. Keyword co-occurrence helped identify the most frequent concepts and their relationships. Thematic clustering was used to detect the main research directions represented in the sample.

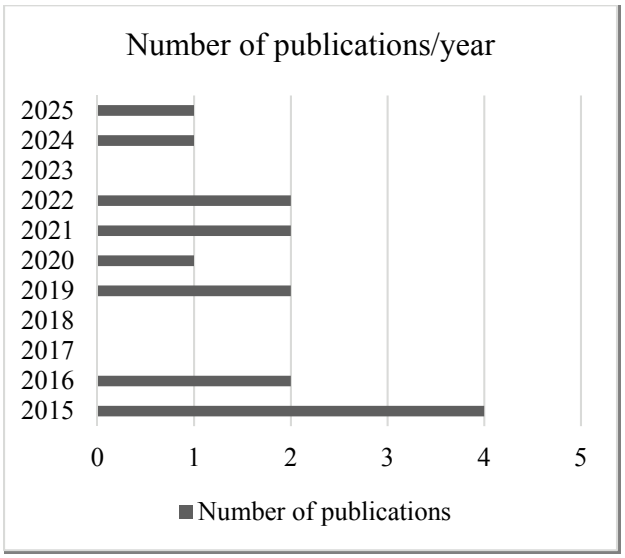
This method was considered appropriate because the field of organizational ergonomics and business development appears to be multidisciplinary and dispersed across several domains. A bibliometric analysis provided a structured way to identify patterns, research themes, and the overall development of the field. This study relied only on secondary data from the Scopus database and did not involve human participants or personal data. Therefore, formal ethical approval was not required.

The study also has some limitations. It used only one database, which may have excluded relevant publications indexed on other platforms. In addition, the screening was based on abstracts, which may have introduced some subjectivity.

RESULTS AND DISCUSSIONS

The final analysis corpus consisted of 15 documents published between 2015 and 2025. As shown in Figure 1, the distribution over the years is uneven, but it still suggests that there is academic interest in the topic. The highest number of publications appeared in 2015 (4 documents), followed by 2016 (2), 2019 (2), 2021 (2), and 2022 (2). Single publications were identified in 2020, 2024, and 2025. 2017 and 2018 showed no relevant results. This pattern suggests that research on organisational ergonomics and business development has formed through scattered contributions rather than through linear growth. However, the presence of more recent publications indicates that the field remains active and continues to evolve.

Figure 1: Publication trend by year in the analyzed corpus (n = 15)



The keyword patterns also show that the field is strongly interdisciplinary. Across the analyzed documents, the most visible concepts relate to ergonomics, human factors, socio-technical systems, sustainable development, organizational culture, digital transformation, inclusive design, organizational learning, and work environment. This suggests that organizational ergonomics is no longer only limited to physical workplace design. Instead, it is increasingly linked to organizational and managerial concerns. It is also notable that business development often appears in an indirect way, through ideas such as performance, competitiveness, innovation, strategy, transformation, and sustainability.

Three main thematic clusters were identified in the analyzed corpus. These are summarized in Table 1.

Table 1: Main identified thematic clusters

Thematic cluster	Main focus
Sustainability and socio-technical development	Ergonomics linked to sustainable organisational systems and long-term value creation
Organisational change, culture and learning	Ergonomics linked to adaptation, participation and organisational development
Innovation, usability and digital transformation	Ergonomics linked to competitiveness, design and transformation

The first cluster is based on sustainability and socio-technical development. This group includes studies on green ergonomics, sustainable development, integrated strategy and employee well-being. These publications do suggest that ergonomics contribute to improving the operations of a business, but they also develop its environmental and social dimensions. In particular, green ergonomics and implementing a sustainable strategy show how workplace design and organizational processes can create long-term resilience and value (Negulescu et al., 2022; Norton et al., 2021). This view also matches research showing that sustainable working lives, health, leadership and employability are closely connected to the outcomes of an organization (Nilsson, 2024). In a similar way, recent business-oriented HF/E (Human Factors and Ergonomics) research shows that green human resource management and ergonomics can work together to develop an organization (Indoria et al., 2025).

The second cluster is organizational change, culture, and learning. Here, the focus is on organizational culture, stakeholder participation, learning processes and the realities of change. These studies show that organizational ergonomics is closely related to organizational development. This is the case especially when the adaptation of a business relies on employees' participation and practical knowledge that is collected from everyday work, rather than from the top-down decisions of managers (Nascimento, 2020; Stary et al., 2015). This theme also suggests that business development is shaped by how organizations learn, reflect, and redesign work processes over time. This means that ergonomics supports efficiency, but also the learning capacity of an organization and how they adapt their business processes. This is also visible in research that focuses on architectural design, where qualitative evaluation methods are used to improve design quality and investment decisions, including their business implications (Fross et al., 2015).

The third cluster is innovation, usability, and digital transformation. This part of the literature highlights cognitive ergonomics, digital manufacturing, inclusive design, customer-centred design, and AI-supported organizational performance. These studies turn ergonomics into a driver of competitiveness and business transformation. This happens because it improves the relationship between people, technology, and organizational systems (Chamberlain et al., 2015; Spath & Braun, 2021; Witchel & Westling, 2019). The same pattern is also visible in research that links AI-based human–machine interaction, leadership behavior, self-efficacy, and enterprise performance, which shows that human factors are still the most important, even where the business uses advanced technology (Lin et al., 2022). A similar perspective can be found in a research that focuses on industrial security systems, which shows that if the resources and knowledge of an organisation are well-protected, it can boost productivity, reliability and competitiveness (Lee & Park, 2016).

Another visible pattern is the diversity of the sectors that are covered by the sample. The analysed documents refer to logistics, digital manufacturing, open-plan offices, inclusive design, architecture, industrial security, and organisational performance. This shows that the topic does not only belong to

one single discipline. Instead, it spreads across business, engineering, design, psychology, and sustainability research. This supports the view that organisational ergonomics is a fragmented but expanding field.

At the same time, the findings suggest that the link between organisational ergonomics and business development is more implicit rather than explicit. Many publications focus on performance, adaptability, innovation, competitiveness, or sustainable management, but do not refer to it directly as business development. This is an important result, because it shows that the field is strongly relevant to business, even if the managerial dimension is not clearly labelled. From this perspective, organisational ergonomics is not just a narrow technical field. It offers a broad way of thinking about how organisations create value through work design, technology use and human-centred development.

Overall, the results indicate that organisational ergonomics is best understood as a multidisciplinary and evolving field that connects human-centred design, organisational processes, sustainability, innovation, and strategic development. Although the literature remains spread across different themes and sectors, the analysis still reveals a shared interest in how ergonomics can support organisational adaptation, performance and long-term value creation.

CONCLUSIONS

This study aimed to map the research landscape of organisational ergonomics and business development through a bibliometric analysis of Scopus-indexed publications. The findings show that this is a broad and evolving field. Although the selected literature covers different sectors and topics, three main directions stood out: sustainability and socio-technical development, organisational change and learning, and lastly, innovation, usability, and digital transformation.

The analysis also showed that the connection between organisational ergonomics and business development is often present, even when it is not named directly. Many of the studies focus on performance, adaptability, competitiveness, innovation, and sustainability without explicitly using the term “business development”. Even so, the results make it clear that organisational ergonomics has strong relevance for business and management, especially in the way organisations design work, use technology, and support human-centred development.

One of the main contributions of this study is that it helps structure a field that is still quite scattered. By identifying the common themes across the literature, it becomes easier to see that organisational ergonomics is no longer limited to narrow technical concerns. It is increasingly linked to the foundation of a successful organisation, which includes change, value creation, sustainability, and long-term development. At the same time, the study has some limitations. It was based only on the Scopus database, and the final analysed corpus was relatively small. The screening process relied on titles and abstracts, which may have introduced a degree of subjectivity.

Future research could build on these findings by using larger datasets, additional databases, and more advanced bibliometric tools. It would also be useful to explore this topic in specific sectors or organisational contexts. From a practical point of view, the findings suggest that ergonomics should not be seen only as a technical matter. It should also be understood as a useful perspective for innovation, sustainability, and long-term organisational development.

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