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Workplace change within the COVID-19 context: The new (next) normal

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ARTICLE INFO

Keywords:

COVID-19
Workplace strategy
New (next) normal
Real estate
Workplace redesign
Workplace indicators
Grounded Theory
Pandemics

ABSTRACT

Purpose: This paper aims to investigate the current status of the workplace, its evolution during COVID-19, and the impact of the pandemic on the new (next) normal. This follows previous research about changes in the workplace influenced by the pandemic. Documents, publications, and surveys from numerous sources have been analysed to discover more about the experience of employees and organizations with remote working and the advantages and disadvantages of accessing the workplace during the pandemic and in the new (next) normal. The paper has two objectives, the first of which is to explore some indicators based on available data sources that can help to understand and, in some way, measure the workplace changes in the context of COVID-19. The second is to extend the previous analysis, using the same timeline framework, by studying the workplace during and after COVID-19.

Structure: First, the introduction explains the main basis of the research and the principal data sources, outlining what is known, what is new, and the aim of the paper. Then the research methodology is explained, along with the criteria by which the datasets were selected, and the results for the indicators outcomes. Finally, the concluding section highlights the findings obtained, their implications, the limitations of the study, and suggested future lines of research.

Findings: The analysis provides insight into to employees' and organizations' experience with remote working and the advantages and disadvantages of accessing the workplace during the pandemic. The indicators identified can allow a better understanding of the environment and, especially, a deeper knowledge of the new normal situation under COVID-19.

Discussion: In previous studies, certain strategic categories were identified in the process of reimagining the workplace after COVID-19. Those strategic categories supported the conclusion that there were several common company policies which, translated into practical action, could help in people's engagement with their work. These policies can be summarized as redesigning the physical space of the workplace, work flexibility, family reconciliation, and health security. The study of these policies, based on data analysis, may open up different research paths and allow us to establish models directly related to employee satisfaction.

Originality: The paper continues a previous line of research on the situation in the workplace by incorporating certain indicators that allow its measurement and, above all, its evolution over time, especially during the time of the new (next) normal, and by investigating the current status and future evolution of the workplace in the context of the COVID-19 pandemic. The analysis of the data made possible the identification of patterns within the available literature regarding recent events and, especially, their influence on the workplace. This has led to the development of indicators in a range of categories.

Practical implications: The revolution initiated by COVID-19 has changed the way companies and employees work, which has involved a constant reinvention of the way they operate and provoked previously unseen actions and profound changes in the workplace. Therefore, the idea of the workplace will never again be what it was expected to be was before COVID-19, and it will be very different from that in the new (next) normal.

The strategic categories and their indicators developed here are considered important for people's engagement with their workplaces and organizations. The processes adopted by firms must facilitate the redesign of the workplace in accordance with the new forms of work and not act as a mere copy or transfer of the usual approaches to remote work. Providing answers to the questions involved, and deepening the classifications of the categories we develop, can help us understand how people can be connected with the newest forms of workplaces. Some categories and their associated indicators are relevant in remote work and home office

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environments created by COVID-19. Given that the research started within a pandemic that has not yet ended, while we now know a lot more, the near-term future is uncertain.

1. Introduction

The workplace will never be the same after COVID-19 (De Lucas Ancillo et al., 2020). People had to work from unsuspected places: their kitchen, their dining room, their living room, even their bedroom, leaving the concept of the workplace radically changed. So, the revolution provoked by the pandemic has shown people how automatic, or amazing, or boring their working lives were, therefore the term “new normal” has been used to refer to the changes in how people live and work due to the pandemic.

The pandemic brought new ways of doing business (Gavrila Gavrila and de Lucas Ancillo, 2021c; McKinsey, 2020); organizations had to change how they operated and rethink the role of offices in people's careers (Catalyst, 2020; McKinsey, 2020; PricewaterhouseCoopers, 2020a; World Economic Forum, 2020). Within organizations, the pandemic led to changes in how employees relate with each other and third parties such as customers, suppliers, and stakeholders (Gavrila Gavrila and de Lucas Ancillo, 2021a, 2021b). Unparalleled challenges were posed to companies around the world, who had to show they could respond to the unforeseen situation by implementing pre-designed crisis management plans (Mikušová and Horváthová, 2019; Sarabia et al., 2020) and creating new work conditions by which to protect workers (Gartner, 2020b; KPMG, 2020d, 2020e). However, these organizations are now moving on from the initial remedies of the pandemic to the new (next) normal with no certainty yet of what that is or it what it will bring (Vienne, 2020).

1.1. What is known

The workplace can simply be understood as the building or place where people perform their jobs (Cambridge, 2020). But the existing literature expands the concept by including additional dimensions such as social relationships, employee gatherings, creativity, training, motivation, engagement, and self-realization (Endrissat et al., 2015; Fisher, 2010; Gill, 2019; Goffee and Jones, 2013). Organizations and organizational life have been much investigated, such as by Meyer and Rowan (1977), Ritzer (1996, 2005), and DiMaggio and Powell (1983). It has been widely observed that the pursuit of efficiency by rational means has brought the progressive dehumanization of organizations (Ritzer, 2005), undermining employees' sense of identity and relationships with others (Gill, 2019).

After analysing several reports, multiple data sources, surveys, and documents and contrasting them with the role played by individuals, organizations, and companies in this new situation, De Lucas Ancillo

et al. (2020) offered ways of understanding both the processes that can reimagine, re-improve, re-invent and thereby change the workplace, and what organizations have to do to adapt. The “new normal” includes several elements and challenges for the organization of work, as follows.

- (1) Telecommuting: Many companies have implemented telecommuting on a large scale to protect the health of their employees and reduce the spread of the virus. This has been a key element of the new normal and has led to increased online collaboration and communication. From a business perspective, telecommuting can present challenges for management and communication, as employees are not in the same workplace.
- (2) Safety and Health: The pandemic has highlighted the importance of health and safety in the workplace. Many companies have implemented additional health and safety measures to protect their employees, such as social distancing and using masks. From an implementation point of view, such measures can be costly and require greater coordination and communication.
- (3) Adaptability: The pandemic has demonstrated the need for adaptability and flexibility in the workplace. Many companies have had to adapt quickly to changes in working conditions and market demand. From a management perspective, the need to adapt quickly to changes can be challenging and require the re-organization of work and the re-assignment of tasks.

Certain strategic categories are important for reimagining the workplace after COVID-19 and for the process of changing it. These categories show that there are some common company policies that can help in the engagement of people with their work (Rožman and Strukelj, 2020a).

According to De Lucas Ancillo et al. (2020), these policies can be summarized as redesigning the physical space of the workplace, work flexibility, family reconciliation, and health security. People's engagement with their workplaces and organizations can be categorized under five headings (Table 1). Literature reviews show that “Breaking with the past” is necessary and should be done from a work perspective, characterizing and redesigning the workplace according to the organization's priorities (McKinsey, 2020). This process must facilitate the redesign of the workplace in accordance with the new forms of work and not act as a mere copy or transfer of the usual processes to remote work (McKinsey, 2020). Companies that are more engaged with employees and more “human-centric” (EY, 2020a) will emerge faster and stronger.

Table 1
Strategic categories main outcomes. De Lucas Ancillo et al. (2020).

Category	Main outcomes
1. Breaking with the past	Organizations of any size should consider the present moment as their best opportunity to break the inertia of the past and eliminate old bad habits or outdated ways of doing things. This implies they must imagine new ways of work, and how the workplace will be, either by their own means or by means of external consulting services.
2. Workplace redesign	The future workplace has to be more digital, less hierarchical, and more flexible, while complying with the health, safety, and technological conditions required by the evolution of pandemics, such as COVID-19.
3. Technology	Its role has been decisive in new ways of working, digitalization, and survival within the COVID-19 pandemic, but it has also been one of the levers for employees' engagement with the workplace and important for the sustenance of corporate culture, learning, collaboration, and productivity.
4. Digital strategy	Organizations must face up to a deep transformation. This opportunity is the catalyst and accelerator of changes through digital transformation, whereby employees, companies, and workplaces will inevitably become more agile and dynamic than ever.
5. Remote working and new sense of workplace	The overall remote experience has been considered positive, where productivity, happiness, and employee engagement levels have increased. However, many organizations are still on the journey to discovering and trying new forms of workplace.
Core category: The workplace during and after COVID-19	The future is neither what is known today nor what could have become in the absence of COVID-19. It will inevitably be more inclusive, more mature, and novel, considering the needs of both employees and businesses, creating a good balance between them.

1.2. What is new

The exploration of some indicators based on available data sources can help us to understand, and somewhat measure, the workplace changes that occurred in the context of COVID-19. It can also extend the analysis, using the previously established time frame, in order to better understand the workplace in COVID-19 and in the new (next) normal situation.

Strategic Workplace Categories and their indicators are considered important for people's engagement with their workplaces and organizations. These processes should facilitate the redesign of the workplace according to the new ways of working and not act as a mere copy or transfer of the usual processes to remote working. Answering these questions and further classifying the categories can help us understand how to connect people to the new ways of working. Some categories and indicators seem to be relevant issues in remote work and home office environments in pandemic situations such as COVID-19. Given that the research started within a pandemic that has not yet ended, while we now know a lot more, the near-term future is uncertain.

Therefore, the added value of this research is the investigation of the Strategic Workplace Categories and their related indicators, as it could help establish new ideas about what will happen in the new (next) normal and the possible future relationship between them. Currently, as organizations enter the new (next) normal, the ones who deploy and manage the new workplace will be the ones who will succeed (Vienne, 2020).

1.3. Aim of the study

The main objective is to analyze the status of the workplace, how its evolution has been influenced by the COVID-19 pandemic, and the pandemic's influence in the so-called new (next) normal. First, there is special interest in developing some indicators that can help in understanding the changes that have affected the workplace. Secondly, the study will extend the previous analysis, using a basic timeline framework that can contextualize the workplace situation by reference to the parameters of the new (next) normal situation, trying to explain some of the most important aspects of what changes will occur in organizations, workers, and workplaces.

Documents, publications, and surveys from numerous sources have been analysed to extract the possible indicators regarding the experience of employees and organizations with remote working and the advantages and disadvantages of accessing the workplace during the pandemic and in the new (next) normal.

2. Theoretical framework and literature review

2.1. Theoretical framework

The research model extends the proposal of De Lucas Ancillo et al. (2020) regarding Grounded Theory (GT), a methodology initially introduced by Glaser and Strauss (1969). It uses data to create theories and thus allows important aspects of specific social fields to be discovered (Strauss and Corbin, 2012). Although GT has been applied to the field of sociology, De Lucas Ancillo et al. (2020), Cuñat Giménez (2007), and others emphasize that it has been used in numerous other areas of knowledge, such as hotel tourism management (Connell and Lowe, 1997), general management (Henwood and Pidgeon, 1997; Partington, 2000), innovation (Lowe, 1995), company creation (Locke, 2001) and company mergers (Lowe, 1998). As indicated by Strauss and Corbin (2012), it allows a more in-depth and comprehensive interpretation of a phenomenon that has already been studied.

For this study, an empirical methodology was selected following an extensive qualitative analysis of the collected literature in order to identify the possible resulting Workplace indicators. GT was applied to the Workplace and produced the five strategic categories identified in

the process of reimagining the workplace after COVID-19 (Table 1). Those strategic categories led to a main category (core) showing the existence of some common company policies that, translated into practical actions, could help in the engagement of people with their work and deepen the investigation by exploring the existence of different indicators that could help companies achieve these objectives.

2.2. Literature review input

Following the works of De Lucas Ancillo et al. (2020), this study has been conducted from publications, interviews, and surveys from leading global consultancies. It constitutes a comprehensive data-research effort exploring key data on the workplace situation in relation to COVID-19, return to work, and future scenarios. It is based on online data sources: global data sources, documents, publications, and surveys from highly reputable sources, such as the BBC, Forbes, Gartner, McKinsey, Gallup, the WHO, Boston Consulting Group, KPMG, PwC, EY, Deloitte, Cisco, Freeform Dynamics, Dimensional Research and Harvard. They were analysed mainly from March 2020 to February 2021 and came from over thirty countries and regions. The bibliographic information is detailed in Table 2 below.

The information gathered from the studies and interviews consulted was complemented by additional items, providing 45 different sources. The collected data was divided into categories and contrasted through all the stages of the analysis, using the 5 + 1 categories classification of De Lucas Ancillo et al. (2020). The categories were linked to each other, as were the subcategories describing each main category, producing the core category (+1) (Strauss, 1987).

3. Research methodology

The research model (Fig. 1) describes a linear process, where the Workplace Strategic Categories baseline literature is provided as an input to the qualitative analysis process:

- (1) Exploration and collection of Workplace literature: gathering the necessary literature sources that will be further analysed.
- (2) Raw Text Preparation step: extracting plain text from the identified literature sources that will serve as baseline literature.
- (3) Keyword Filtering step: removing misspelled words, connectors, and any possible advertisement text, especially for consultant companies that tend to promote their services within their publication.
- (4) Keyword Extraction step: evaluating each publication with a word cloud text-mining tool and obtaining the top 100 most relevant keywords and phrases
- (5) Keywords Consolidation step: merging all publications with their identified relevant keywords and phrases to consolidate one super dataset. Similar keywords or duplicated ones are merged as part of the consolidation process that will establish the possible Strategic Categories indicators list
- (6) Indicators Classification step: classifying each potential Workplace indicator according to the five Strategic Categories
- (7) The final Categories Indicators are presented in a table format for their possible implementation within the organization and further clustered as a node-based diagram based on their inter-relationship between Categories.

4. Data analysis and results

4.1. Data analysis

The steps of the research model Raw Text Preparation, Keywords Filtering, Keywords Extraction, and Keywords Consolidation were executed using the literature baseline blocks (Table 2) proposed by De Lucas Ancillo et al. (2020), as they are highly relevant for the five

Table 2
Input literature blocks extended from De Lucas Ancillo et al. (2020). Own elaboration.

Input literature blocks	Reference
A. COVID-19 impact and recovery aspects	
Covid-10: Women, equity, and inclusion in the future of work	(Catalyst, 2020)
Tracking The Recovery: What Manufacturers Can Learn From One Another	(Deloitte, 2020d)
Enterprise resiliency: nine areas of focus for COVID-19 crisis management	(EY, 2020b)
Two New COVID-19 Studies Reveal CFO's Focus On Workplace Reboot, Revenue, And Cost Cutting	(Forbes, 2020b)
9 Future of Work Trends Post-COVID-19	(Gartner, 2020a)
COVID-19 Resource Center Insights	(Gartner, 2020b)
Gartner Survey Reveals 42 % of CFOs Have No Contingency Plans for Second Wave of COVID-19	(Gartner, 2020c)
Workforce Strategies for Post-COVID-19 Recovery	(Harvard Business Review, 2020)
Reimagining the Office and Work Life After COVID-19	(McKinsey, 2020)
COVID-19: Impacts on business	(PricewaterhouseCoopers, 2020a)
PWC's COVID-19 CFO Pulse Survey	(PricewaterhouseCoopers, 2020c)
How the post-COVID workplace will change business for the better	(World Economic Forum, 2020)
Reboot: Employees want safety and wellbeing prioritized	(PwC, 2020)
Coronavirus: How the world of work may change forever	(Cooper, 2020)
What Will The Post-Covid-19 Workplace Look Like?	(Jewell, 2020)
B. Future workplace aspects	
COVID-19: Reopening the workplace in financial services	(Deloitte, 2020b)
Returning to the Workplace: Considerations for Boards	(Diligent Insights, 2020)
Can reopening your workplace help you reimagine your future?	(EY, 2020a)
5 Predictions About How Coronavirus Will Change The Future Of Work	(Forbes, 2020a)
3 Strategies for Leading Effectively Amid COVID-19	(GALLUP, 2020)
Strategies for Returning to the Workplace After COVID-19	(Herman Miller, 2020)
COVID-19 Return to the workplace – the new reality	(Gartner, 2020c)
KPMG's Framework for Organizations' Safe Reopening	(Gartner, 2020d)
Return to the workplace – Steps to a new reality	(Gartner, 2020e)
It is time to redefine work and the workplace	(People Matters, 2020)
How COVID-19 will reset traditional workplace rules	(PricewaterhouseCoopers, 2020b)
Returning to the workplace after COVID-19: What boards should be thinking about	(PricewaterhouseCoopers, 2020d)
A guide to thriving in the post-COVID-19 workplace	(WEF, 2020)
Considerations for public health and social measures in the workplace in the context of COVID-19	(World Health Organization, 2020a)
Q&A: tips for health and safety at the workplace in the context of COVID-19	(World Health Organization, 2020b)
The rise of the hybrid workplace	(Dimensional Research, 2020)
Embracing the hybrid workplace	(Cisco, 2020)
The Future Workplace: Will Where We Work Change	(Morel, 2020)
Technological factors	
Remote Work Works—Where Do We Go from Here?	(BCG, 2020)
COVID-19: Accelerate Digitization to Increase Resilience	(Deloitte, 2020a)
Digital transformation through the lens of COVID-19	(Deloitte, 2020c)
How Technology Can Curb the Spread of COVID-19	(Gartner, 2020e)
COVID-19: Accelerating digital transformation in uncertain times	(KPMG, 2020a)
COVID-19 digital transformation	(KPMG, 2020b)
Digital adoption through COVID-19 and beyond	(McKinsey, 2020a)
Workplace learning during coronavirus	(McKinsey, 2020c)
Remote Work Works—Where Do We Go from Here?	(BCG, 2020)
Workplace changes after COVID-19	(Vienna, 2020)
5 Lasting Changes To Expect In The Workplace Post-Covid	(Stahl, 2021)
How COVID experiences will reshape the workplace	(Pazzansese, 2021)

strategic categories identified in the process of reimagining the workplace after COVID-19. The input literature can be summarized as: 15 publications regarding COVID-19 Impact and Recovery Aspects block (A), 18 publications regarding Future Workplace Aspects (B) and 12 publications on Technological Factors aspects (C); a total of 45 publications.

Once the consolidated keywords dataset had been obtained, the final steps were executed in order to classify the identified indicators according to each Workplace Strategic Category (Table 1). Table 3 provides the list of 224 potential Workplace Indicators extracted from the input literature block, together with their corresponding category.

4.2. Indicators analysis

In order to have a better understanding of the relationships between the extracted Workplace Indicators, a node-based diagram was created, where each node consists of a keyword connected to all related nodes where there is an existing connection. The size of each node indicates its

relevance and the number of connections to the rest of the nodes; the nodes with significant numbers of connections between them are colored and form a potential indicators cluster. These, combined, lead to deep relationship clusters.

4.2.1. Breaking with the past category

COVID-19 has forced organizations to reconsider everything they knew about their business activity, workplace, or employees, as they were suddenly forced to shift toward a digital remote environment or to shut down. The transition to the new (next) normal requires organizations to break with the past and embrace major cultural, organizational, and technological changes that reshape the business model and its interaction with customers, employees, and suppliers.

The literature analysed regarding the Strategic Category 'Breaking with the past' (Fig. 2) provides some clusters of core indicators, such as the need to have strategic planning for digitalization and digital transformation, remote work, collaboration, office layout redesign, performance-based tasks, automation, innovation, and cultural shift.

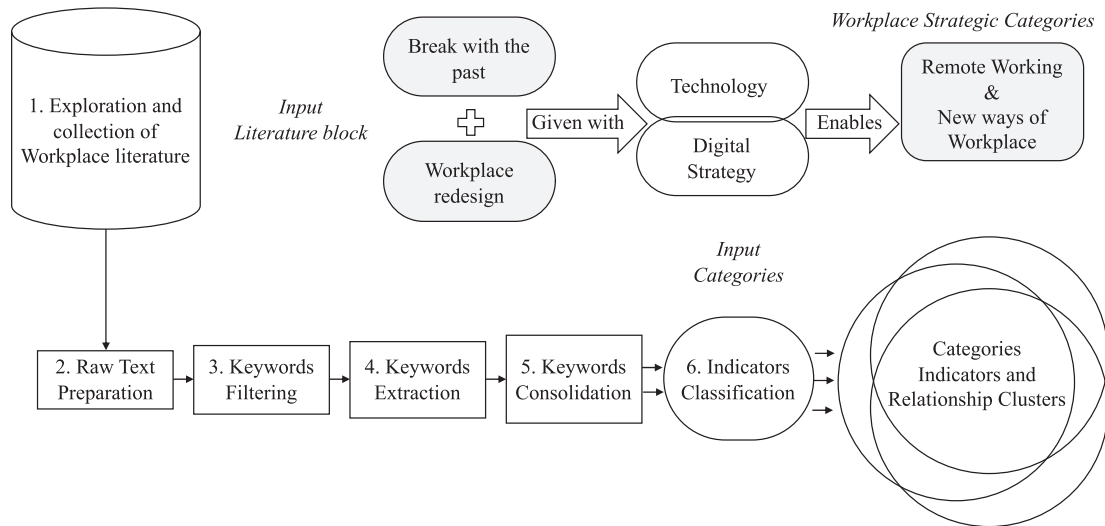


Fig. 1. Research model. Own elaboration and De Lucas Ancillo et al. (2020).

The outer indicators clusters consider six aspects. (1) Office conditions aspects, such as air quality monitoring, noise monitoring, hygiene monitoring, contact tracing, or social distancing measures. (2) Office layout aspects, such as desk sharing, office footprint, and utilization ratios. (3) Task-related aspects, such as automation, gradual transition, flexible work options, collaboration, and knowledge sharing. (4) Personal and Human Resources aspects, such as employees' anxiety, frustration, mental health, family care flexibility and incentives, equality, appraisals, career plan development, reskilling and e-learning, talent management and recruitment, or even gamification and engagement. (5) Business-related aspects, such as resilience, recovery plan, economic and financial recovery, carbon footprint reduction, and corporate social responsibility. And (6) the technological baseline, such as the digitization and digital transformation strategic plan, collaborative cloud solutions, data-driven decisions including privacy issues, virtual enablers, eLearning deployment, and integration of customers and suppliers.

4.2.2. Workplace redesign category

The clusters of core indicators in the Strategic Category 'Workplace Redesign' (Fig. 3) refer to the multidimensional aspects of the reconsideration of space requirements, new design aspect, gradual return, contingency planning, and workplace digitization and transformation, together with their related economic issues of financial performance, management performance, and business performance.

With regard to the outer indicators clusters, the Workplace redesign must also consider two other issues. (1), The relationships involving the tracing of COVID-19 cases, together with the deployment of solutions such as voice controls or applications that promote social distancing and avoid physical interactions. (2), The existence of policies on desk sharing, co-working, desk occupation, hygiene and frequent cleaning protocols, air quality and ambient noise measurement, social distancing, and new social bonding between employees within a physical and remote workplace. (3) Human Resources aspects, such as strategic culture planning, collaborative culture, or commitment. (3) Personal aspects, such as family and elderly care, and the measurement of the quality of use of time. (4) Financial indicators regarding risk, stability, health and safety, and their impact within the uncertain economic context.

4.2.3. Technology category

The core indicators clusters for the Technology Category (Fig. 4) are related to the necessary acquisition of software and hardware solutions for the digital workplace and virtual customers, employees, and suppliers channels, measuring their infrastructure performance, quality,

security, and maturity while monitoring and reducing carbon footprint.

The outer indicator clusters are of two types. (1) Investment, deployment, and utilization indicators regarding the digital office and COVID-19-related contact tracing applications, office environmental conditions, such as air quality and ambient noise, touch-less interactions using voice recognition solutions, cloud tools, collaboration tools, and automation aspects. (2) Indicators regarding the baseline technology for monitoring data collection and privacy from the point of view of the business's overall performance, such as business activity, customer relationships, supply chain, and employees' HR.

4.2.4. Digital strategy category

The core indicators clusters for the Digital strategy category (Fig. 5), complemented by the Technology category, which refers to aspects of acquisition, point to the digitization and digitalization processes conducted in building the requirements of the necessary software and hardware solutions for the digital workplace. They measure strategic investment, deployment and utilization ratios related to the workplace transformation, collaboration and automation requirements, in conjunction with their corresponding business continuity plans and business recovery plans.

The outer indicator clusters focus on (1) the organization's technological strategies that foster collaboration, automation, productivity or remote environment spaces, corporate social responsibility, and carbon footprint reduction, (2) Performance-related indicators around bandwidth, connectivity, cybersecurity and privacy management involving employees, customers and suppliers aspects, together with their associated risks and recovery protocols, and (3) Employees analytics on commitment, talent, culture, relationships, disruption or innovation aspects.

4.2.5. Remote working and a new sense of workplace

The core indicators clusters regarding remote working and a new sense of workplace (Fig. 6) globally cover all business aspects, employees' human aspects, technological performance, digitization and digitalization strategies, blending them in order to establish the baseline of the new (next) normal.

The outer indicators clusters refer to (1), Indicators regarding the automation of jobs, data-driven decisions, employees' task adaptation, cultural transformation and alignment with the digitalization and digital transformation strategy within the organization and society; (2), Indicators regarding strategic investment in office flow organization, collaboration tools, productivity, social distancing and contact-tracing applications within constant monitoring of hygiene, and active

Table 3
Potential workplace indicators. Own elaboration.

Indicator key-words	1.	2.	3.	4.	5.
1. COVID-19 action plan existence	x	x	x	x	x
2. adaptable organizational strategy existence	x				x
3. agile internal approval processes indicators	x				x
4. agile operating model indicators	x				x
5. air quality sensors and indicators	x	x	x		
6. ambient noise sensors and indicators	x	x	x		
7. data analytics extraction and exploit strategy	x		x	x	x
8. automated tasks ratio	x		x	x	x
9. automatic COVID-19 contact tracing in-company app		x			x
10. automation deployment ratio	x		x	x	x
11. automation of jobs strategic plan	x			x	x
12. automation of manual tasks strategic plan	x			x	x
13. awareness of remote working benefits indicators	x	x			x
14. business activity resilience indicators	x		x	x	x
15. business barriers indicators	x		x	x	
16. business core infrastructure technology indicators			x	x	
17. business data acquisition indicators			x	x	
18. business data collection indicators			x	x	
19. business data management indicators			x	x	
20. business disruption indicators	x		x	x	
21. business innovation indicators	x			x	x
22. business leadership indicators	x				x
23. business legal concerns and indicators	x			x	x
24. business model transformation indicators	x	x	x	x	x
25. business objectives achievement indicators	x		x	x	
26. business operations continuity indicators	x		x	x	
27. business performance indicators and ratios	x	x	x	x	x
28. business perspective indicators and ratios	x	x	x	x	x
29. business requirements indicators	x	x	x	x	x
30. business stress test performance	x				
31. business to business relationship indicators	x		x	x	
32. business to customer relationship indicators	x		x	x	
33. business to employee relationship indicators	x		x	x	x
34. carbon footprint indicators	x	x	x	x	x
35. carbon footprint reduction effort actions	x	x	x	x	x
36. change management challenges and indicators	x				x
37. cloud-based collaboration tools deployment			x	x	
38. company communication transparency indicators	x	x			x
39. competitive advantage indicators	x			x	x
40. consumer segmentation indicator	x			x	x
41. consumer sentiment tracker indicators	x			x	x
42. consumption pattern indicators	x			x	x
43. corporate social responsibility indicators	x			x	x
44. cost of living indicators		x			x
45. cost optimization indicators		x			x
46. cost reduction indicators		x			
47. co-working office model indicators	x	x			x
48. critical business needs identification	x				x
49. critical capabilities identification	x				x
50. critical employees identification	x				x
51. critical roles identification	x				x
52. critical skills identification	x				x
53. critical tasks identification	x				x
54. customer centricity indicators	x				
55. customer experience indicators	x				
56. customer journey indicators	x				
57. customer needs indicators	x				
58. customer preferences indicators	x				
59. customer services infrastructure indicators	x				
60. customer value generation indicators	x				
61. customers virtual communications channel indicators	x		x	x	x
62. cybersecurity risk management	x		x	x	x
63. data-driven decision company culture	x			x	x
64. desk occupation indicators	x	x			
65. desk sharing policies	x	x			x
66. digital channel indicators	x		x	x	
67. digital experience indicators	x		x	x	
68. digital maturity indicators			x	x	
69. digital services indicators			x	x	
70. digital skills indicators	x		x	x	x
71. digital transformation effort indicators	x		x	x	x
72. digital transformation performance indicators	x		x	x	x
73. digital transformation strategic plan	x		x	x	x
74. digital workplace transformation plan	x	x	x	x	x

(continued on next page)

Table 3 (continued)

Indicator key-words	1.	2.	3.	4.	5.
75. distributed team performance indicators	x	x			x
76. distributed work performance indicators	x	x			x
77. early cost-cutting-related indicators		x			x
78. economic impact indicators	x	x	x	x	x
79. economic uncertainty indicators	x	x	x	x	x
80. environmental conditions indicators	x	x			x
81. environmental impact indicators	x	x			x
82. existence of automatic speech recognition tools	x	x	x		x
83. existence of business contingency plan	x	x	x	x	x
84. existence of business continuity plans	x	x	x	x	x
85. existence of business data privacy strategic plan	x			x	x
86. existence of career development support indicators	x				x
87. existence of career opportunities indicators	x				x
88. existence of clear digital business goals	x				x
89. existence of collaborative work environment plan	x			x	x
90. existence of communication strategic plans	x	x	x	x	x
91. existence of communications solutions and software	x		x		
92. existence of company cultural strategic plans	x				x
93. existence of contingency workers planning	x				x
94. existence of contractual arrangements for digital workplace	x				x
95. existence of coronavirus screening procedures	x	x			
96. existence of crisis management team	x				x
97. existence of digital assistants	x	x			x
98. existence of digital business strategic plans	x			x	x
99. existence of digital innovation team	x			x	
100. existence of digital learning plans	x				x
101. existence of digital learning strategic plans	x			x	x
102. existence of digital pricing strategy plan	x			x	
103. existence of digital products strategy plan	x			x	
104. existence of digital talent models	x				x
105. existence of digital workplace strategic plans	x			x	x
106. existence of disaster recovery protocol	x				x
107. existence of environmental control plan	x	x			x
108. existence of face-to-face workplace learning actions	x	x			x
109. existence of family care policies	x	x			x
110. existence of gradual return strategic plan	x	x			x
111. existence of internet of things	x	x	x	x	x
112. existence of new collaboration tools			x	x	
113. existence of office space strategy plan	x	x			
114. existence of pandemic management protocol	x	x	x	x	
115. existence of personalized performance management	x				x
116. existence of safe social distancing and guidelines plan	x	x			x
117. existence of social bonding policies	x	x			x
118. existence of strategic enablers	x			x	
119. existence of strategic planning culture	x	x	x	x	x
120. existence of virtual live learning actions	x		x	x	x
121. financial health indicators		x			x
122. financial impact indicators		x			x
123. financial performance indicators		x			x
124. financial planning indicators		x			x
125. financial reporting consideration		x			x
126. financial risk indicators		x			x
127. financial stability indicators		x			x
128. flexible meeting options	x	x			x
129. flexible space solutions	x	x			x
130. flexible work arrangements	x	x			x
131. flexible work hours	x	x			x
132. flexible work options	x	x			x
133. flexible work system	x	x			x
134. flexible workplace conditions	x	x			x
135. floor layout indicators	x	x			x
136. frequency of cleaning		x			x
137. general office collaboration tools deployment			x	x	
138. health & safety indicators	x	x			x
139. HR alignment with digital workplace indicators	x			x	x
140. HR border-less career opportunities	x				x
141. HR corporate culture indicators	x				x
142. HR cultural shift indicators	x				x
143. HR culture of collaboration and team building	x				x
144. HR culture of flexibility	x				x
145. HR culture of inclusiveness	x				x
146. HR development path	x				x
147. HR digital interaction skills	x		x	x	x
148. HR diverse talent recruitment					x
149. HR elderly family member care flexibility indicators	x	x			x
150. HR emotional wellbeing indicators	x				x

(continued on next page)

Table 3 (continued)

Indicator key-words	1.	2.	3.	4.	5.
151. HR employees anxiety indicators	x	x			x
152. HR employees collaborative relationship indicators	x				x
153. HR employees commitment indicators	x	x		x	x
154. HR employees data collection	x	x		x	x
155. HR employees engagement indicators					x
156. HR employees frustration indicators	x	x			x
157. HR employees incentives indicators	x				x
158. HR employees journey map existence	x				x
159. HR employees performance indicators	x		x	x	x
160. HR employees planning indicators	x		x	x	x
161. HR employees preferences analytics	x			x	x
162. HR employees recovery indicators	x		x	x	x
163. HR employees representation indicators					x
164. HR employees resilience indicators	x		x	x	x
165. HR employees schedule performance indicator					x
166. HR employees sentiment collection	x				x
167. HR family quality time	x	x			x
168. HR gamification principles indicators	x				x
169. HR gamified evaluation indicators	x				x
170. HR gender equality indicators	x				
171. HR home working performance indicators		x			x
172. HR home-based employees experience		x			x
173. HR home-based footprint indicators		x			x
174. HR hot desking policies		x			x
175. HR hybrid environment performance indicators	x	x			x
176. HR hybrid workplace strategic plan	x	x			x
177. HR knowledge workers strategic plan existence	x				x
178. HR legal labor requirements	x				x
179. HR mental health issues	x				x
180. HR organization characteristics indicators	x				x
181. HR physical and remote employees cost indicators	x	x			x
182. HR physical barriers indicators		x			x
183. HR recruitment model	x				x
184. HR redistribute responsibility	x				x
185. HR remote work options	x				x
186. HR remote work policy	x				x
187. HR remote working concept	x				x
188. HR renewed career opportunities	x				x
189. HR strategic plan existence	x				x
190. HR support reskilling	x				x
191. HR sustainable business indicators	x			x	x
192. HR talent analytics	x			x	x
193. HR technology strategical plan existence	x		x	x	x
194. in-company remote-working apps indicators	x	x	x	x	x
195. internet bandwidth connectivity indicators			x	x	x
196. investment ratio in advanced work-related tools			x	x	x
197. investment ratio in office technology	x		x	x	x
198. measurement of productivity	x			x	x
199. meeting room booking indicators		x			
200. meeting room occupation indicators		x			
201. office building requirements		x			
202. office design aspects		x			
203. office environment indicators		x			x
204. office facilities & workplace indicators		x			x
205. office hygiene indicators		x			x
206. organizational resilience indicators	x		x	x	x
207. outsourcing indicators	x	x	x	x	x
208. privacy & security indicators				x	x
209. real estate footprint cost indicators	x	x			x
210. real estate space requirements	x	x			x
211. real estate utilization indicators	x	x			x
212. remote access indicators			x	x	x
213. remote collaboration space requirements			x	x	x
214. remote technology performance aspects			x	x	x
215. remote work experience indicators			x	x	x
216. speech recognition technology existence			x	x	
217. supply chain resilience indicators			x	x	
218. sustainable digitization strategy indicators	x	x	x	x	x
219. technology investment indicators	x		x	x	x
220. technology solutions performance indicators	x		x	x	x
221. virtual learning programs performance indicators	x		x	x	x
222. wireless connection indicators					
223. working environment-related indicators	x	x			x
224. working hours productivity ratios	x				x

1. BP: Break with the past; 2. WR: Workplace redesign; 3. T: Technology; 4. DS: Digital strategy; 5. RWNSW: Remote working and new sense of workplace.

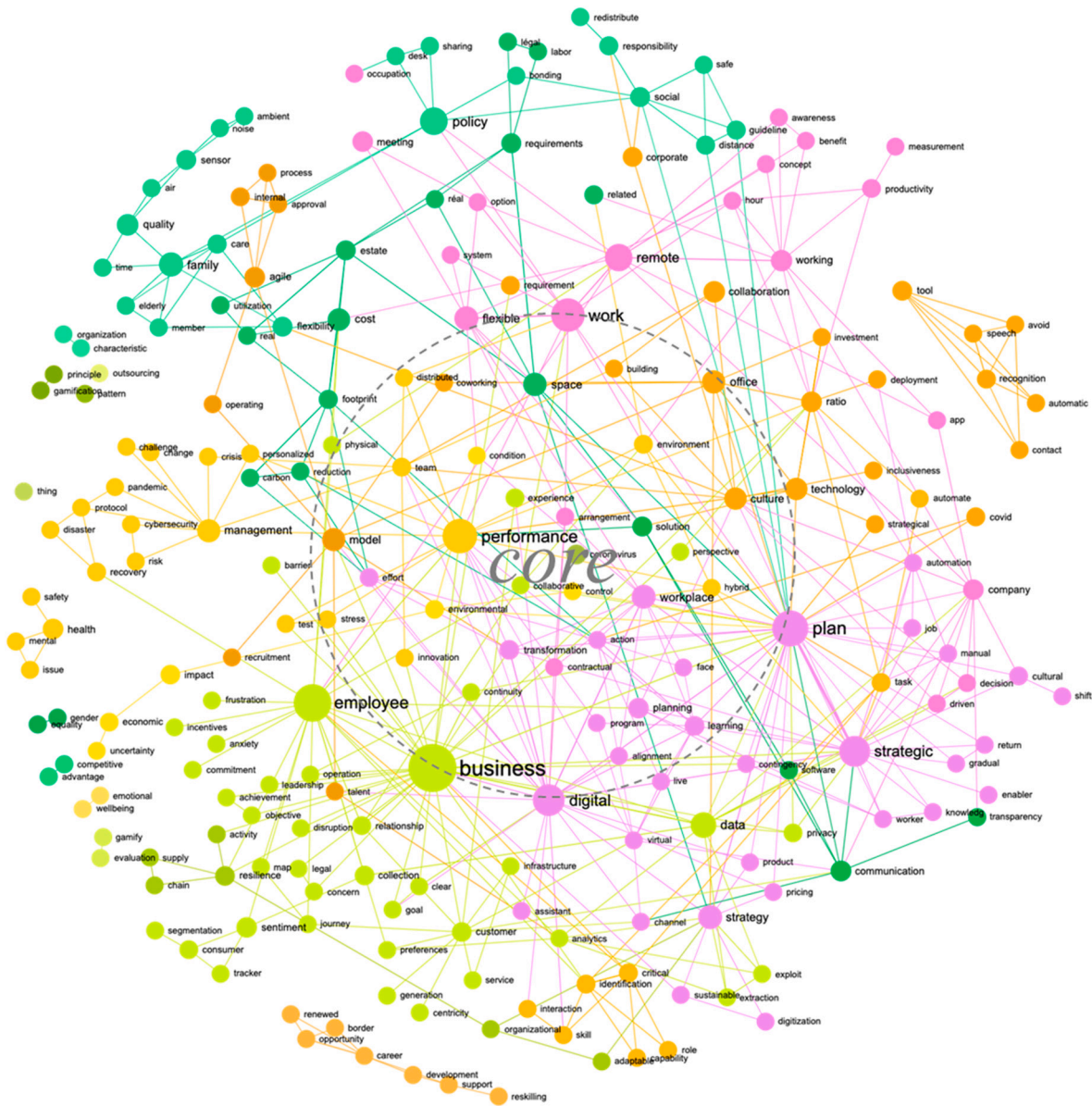


Fig. 2. Breaking with the past potential indicators clusters. Own elaboration.

policies regarding desk sharing, flexibility or social distance; (3), Indicators referring to the employee's personal life balance where family care, time quality, flexibility, gradual return, optimization and inclusiveness are part of the strategic planning and monitored for their performance within the organization's new workplace global vision; (4), Human resources indicators, such as gamification, outsourcing, anxiety, appraisal, engagement, commitment, frustration, incentives, leadership, eLearning, relationship-fostering and bonding, career plan, career support, and career development and reskilling.

4.3. Results

A comprehensive list of possible indicators has been identified for each of the five categories (Fig. 7), together with their relationship clusters (Table 3), summarized as follows:

(1) Breaking with the past consolidates strategic planning regarding digitalization and digital transformation, remote work, collaboration, office layout redesign, performance-based tasks, automation, innovation, or cultural shift.

(2) Workplace redesign covers space requirements, new design, gradual return, contingency planning, workplace digitization and transformation, together with their economic implications: financial performance, management performance, or business performance.

(3) The technology category is supported by the necessary acquisition of software and hardware solutions for the digital workplace and virtual channels, measuring their infrastructure performance, quality, security, and maturity.

(4) The digital strategy category includes the digitization and digitalization processes required to build the necessary software and hardware solutions in conjunction with their corresponding plans for business continuity and recovery.

(5) Remote working and a new sense of workplace globally cover all business aspects, employees' human needs, technological performance, digitization and digitalization strategies, blending them in order to establish the baseline of the new (next) normal.

The above findings, together with the needs created by the pandemic—technology, business continuity requirements, health and

safety, redesign of physical space or real state, etc.—lead to the possibility of considering the measurement of the workplace evolution and the development of some indicators that make it possible for people to connect with their workplaces and for organizations to disrupt the concept of work. Therefore, the outcomes of the core and outer clusters analysis support the five Strategic Categories proposed by De Lucas Ancillo et al. (2020): Break with the past, Workplace redesign, Technology, Digital strategy, and Remote working and new sense of working.

At the same time, the extraction process (research model) has confirmed the existence of Strategic Categories indicators by means of the 224 possible indicators obtained. A baseline of indicators has therefore been established that organizations can develop to help them measure and achieve their workplace transformation, and then combine them to form “super-constructs” that could benchmark their maturity and their progress in overcoming the effects of the pandemic.

5. Conclusions

5.1. Discussion

Following the results of previous studies, the present authors have reviewed the updates of pre-existing documents and searched for new reports, interviews, and surveys that allow us to deepen the evolution of

the pandemic from its beginning to February 2021. The results indicate that the outcomes of the core and outer clusters analysis support the five Strategic Categories proposed by De Lucas Ancillo et al. (2020), where the development of the strategic categories and their indicators are considered important to achieve people’s engagement with their workplaces and organizations.

These categories must facilitate the redesign of the workplace in accordance with the new forms of work and not act as a mere copy or a transfer of the usual processes of remote work. By answering these questions and deepening the classification of the categories, organizations can benefit from knowing how to connect people with the newest forms of workplaces. They provide a baseline of indicators by reference to which they can measure and achieve their workplace transformation, as some indicators and their clusters seem relevant to the remote work and home office environments in pandemic situations like COVID-19.

The paper continues a pre-existing line of research on the workplace by incorporating certain indicators that allow its measurement and, above all, its evolution over time, especially during the time of the new (next) normal. The analysis of the data made possible the identification of patterns within the available literature regarding clusters and 224 indicators—and, especially, of their influence on the workplace—that could be used to foster better long-term decision-making.

The relationships identified envision a scenario in which the

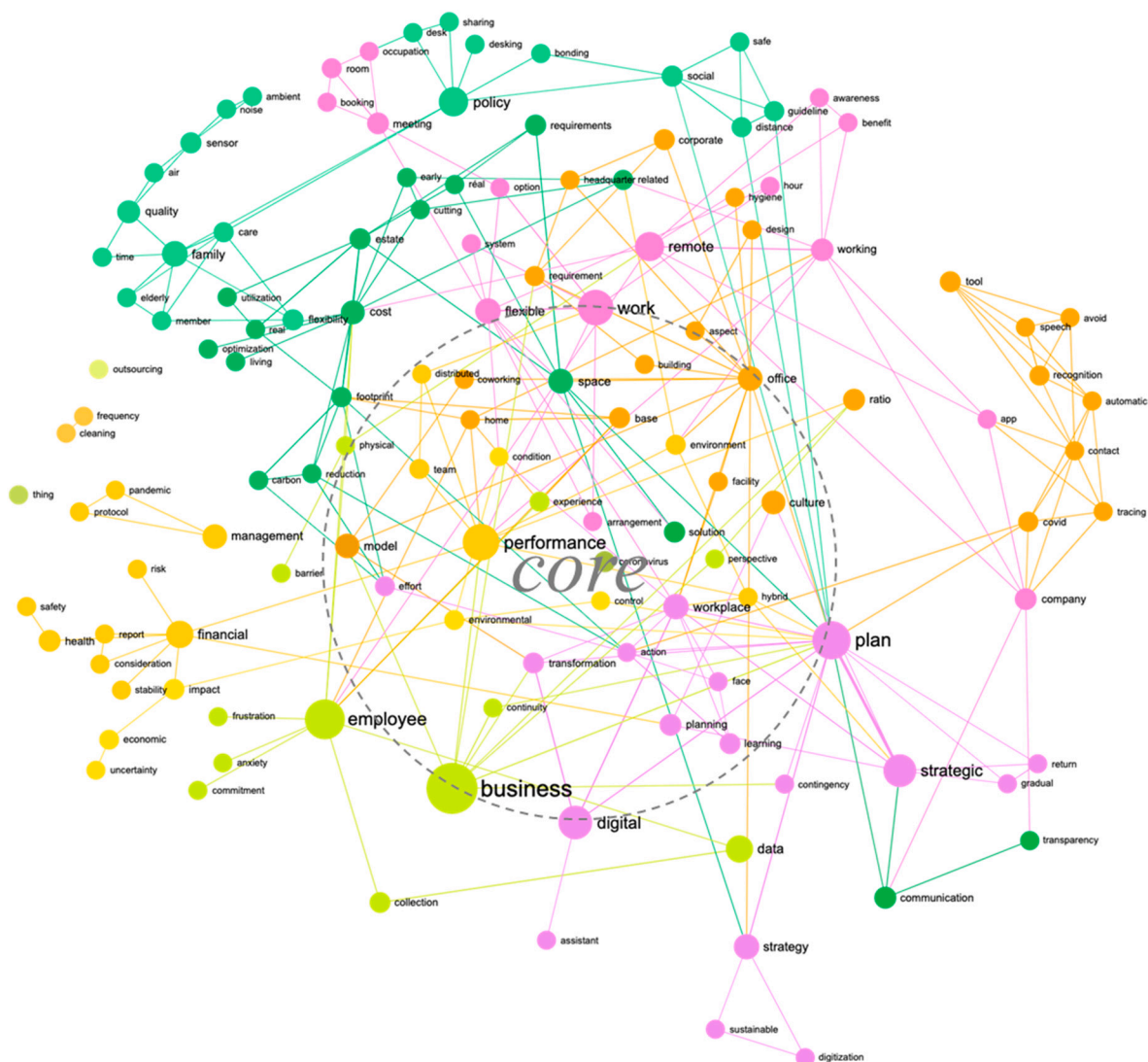


Fig. 3. Workplace redesign potential indicators clusters. Own elaboration.

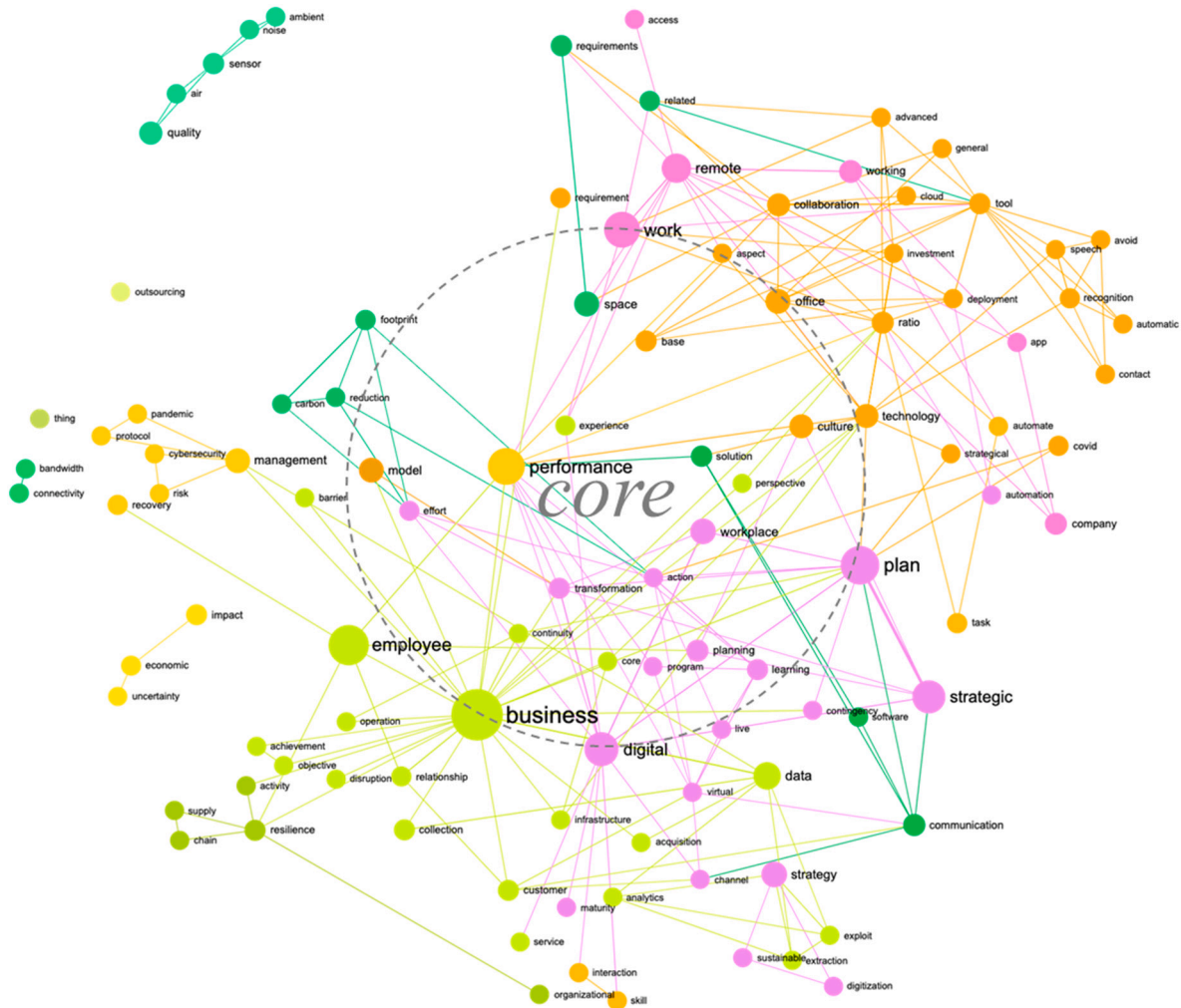


Fig. 4. Technology potential indicators clusters. Own elaboration.

workplace will not only be redesigned, reimagined, or re-enchant (De Lucas Ancillo et al., 2020) but will change due to the circumstances that have arisen during the pandemic.

Traditionally, the workplace has been considered simply as the place where people perform their assigned tasks. Before the pandemic, the drive for efficiency led to a gradual dehumanization of organizations (Ritzer, 2005), threatening employees' sense of identity and their relationship with others (Gill, 2019) and reducing their physical spaces to the bare minimum. During the pandemic, according to Gartner (2020d), 8 out of 10 business managers planned to allow their employees to work remotely at some point, so it appears that the days of the physical workplace are numbered, at least as it is known today.

The current study shows that the workplace will not only be the office location to which the employee travels to work: it will also be any space or living environment where the employee chooses to work. That is, there has been a break with the previously assumed parameters. From now onward, "employee-centric" and "customer-centric" are the twin essential paradigms around which the workplace of the future will be built.

Despite the continuous transformation and disruption of the workplace triggered by COVID and the concomitant shift into digital channels, the new (next) normal inevitably includes some form of physical office interactions (GlobalWorkPlaceAnalytics, 2020). This will require organizations to stay aware and active with regard to several office parameters and variables, including HR aspects, technology performance, and office contact tracing.

Thus the traditional office concept is displaced by a co-working model based on hot desks, which can be almost anywhere, and employees can benefit from a lot of flexibility as to their location, schedule, tasks, a professional and personal life balance (Yela Aránega et al., 2020), and a more hygienic office, with the aim of re-engaging them with the workplace.

On the other hand, organizations benefit from greater commitment on the part of their employees and a more secure digital working environment. They can also reduce real estate budgets and investments in massive offices and headquarters that will never be required at their maximum capacity.

One of the interesting findings of this research is that care (especially for mental health), safety, and commitment are relevant variables in the process of workplace change, although the changes seen are not always positive (WEF, 2020; World Economic Forum, 2020). In addition, organizational practices aimed at work flexibility, family reconciliation, and employee care are desirable and necessary to create attractive workplaces at all times, but especially in pandemic situations.

5.2. Theoretical implications

The revolution prompted by COVID-19 has changed the way companies and employees work, demanding a constant reinvention of how they operate, provoking actions never seen before, and generating profound changes in the workplace. The five categories presented in "What is known" are considered important for people's engagement with

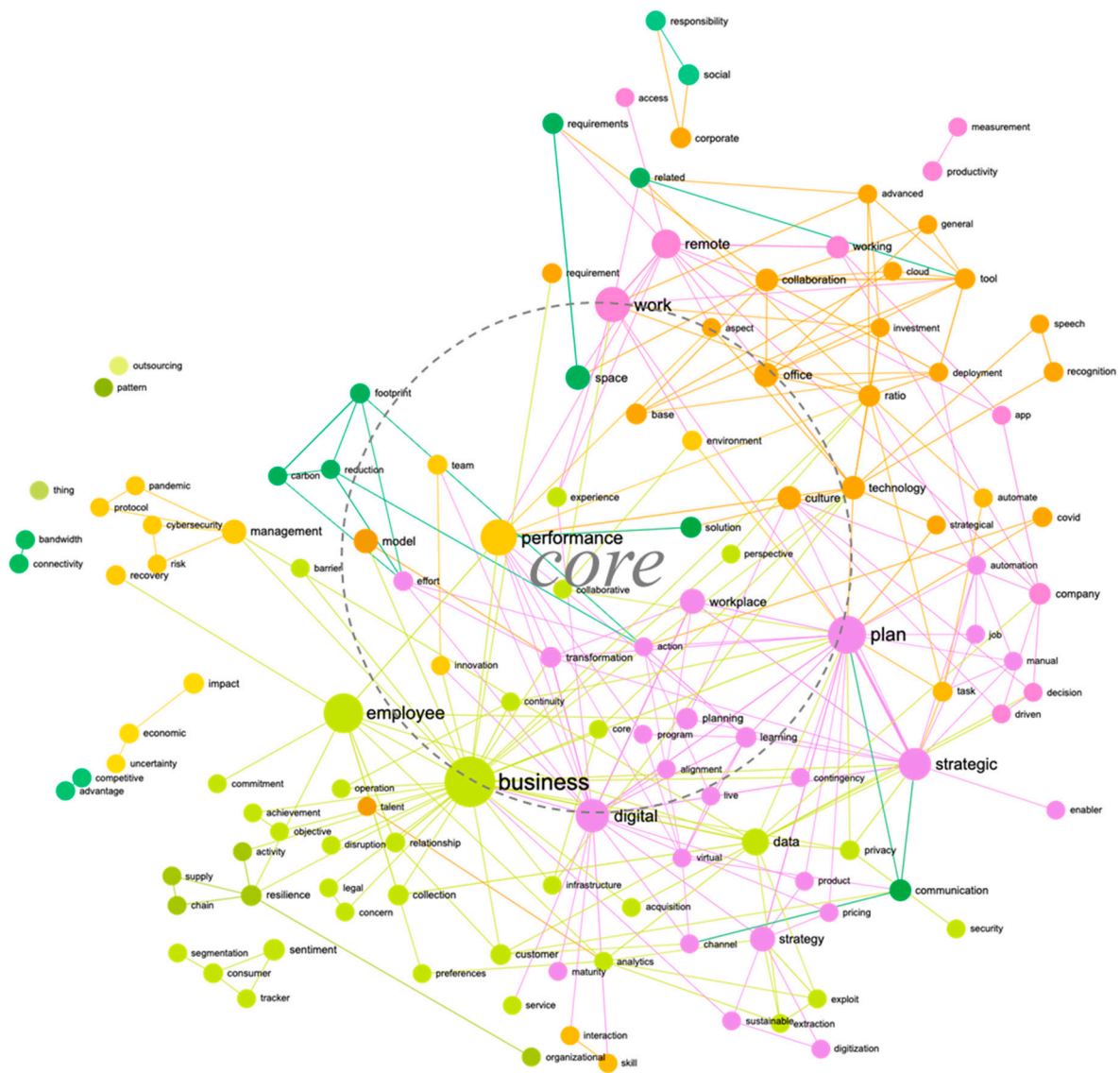


Fig. 5. Digital strategy potential indicators clusters. Own elaboration.

their workplaces and organizations (De Lucas et al.), implying that the idea of the workplace will never again be as it was before COVID-19, and very different from the new (next) normal. The use of the indicators developed, and the study of the categories identified in this and previous work, provide a valuable tool for understanding and analysing the evolution of the workplace.

The nodes-based representation proposed here for depicting the relationship between the proposed indicators leads to clusters. They provide insights and connections between core and outer graph regions that allow organizations to comprehend their implications. Each node consists of a keyword connected to all related nodes with an existing connection. The size of each node indicates its relevance and number of connections with the rest of the nodes, while the nodes with significant numbers of connections between them are colored and form a potential indicators cluster; these, combined, lead to deep relationship clusters.

Comparing them with the Strategical Categories provides a baseline of indicators that organizations can develop in order to help them measure and achieve their workplace transformation. They can be combined to form “super-constructs” that could benchmark their maturity and their progress in overcoming the effects of the pandemic. These “super-constructs” are as follows. (1) Strategic planning within remote work, collaboration, office layout redesign, performance-based

tasks, automation, innovation, and cultural shift for the ‘Breaking with the Past’ category; (2) Space requirements, new design, gradual return, contingency planning, workplace digitization and transformation, and financial aspects for ‘Workplace Redesign’; (3) Software and hardware solutions acquisition for the Technology category; (4) Digitization and digitalization processes for the ‘Digital Strategy’ category; and (5) Global business aspects, employees human aspects, technological performance, and digitization and digitalization strategies within the ‘Remote Working and new sense of workplace’ category.

Therefore, this process must facilitate the redesign of the workplace in accordance with the new ways of work and not act as a mere copy or transfer of the usual remote work processes (McKinsey, 2020). Companies that are more engaged with employees and more “human-centric” (EY, 2020a) will emerge faster and stronger.

This research validates the widespread perception that, due to the new post-pandemic reality, the accelerated “digital maturity” of organizations and employees, and the newly deployed technological infrastructure, along with other changes, most workplaces will be in locations other than the traditional headquarters. This represents a fundamental change for both workers and organizations, causing major disruption in unforeseen ways, such as (1) cultural changes creating a dedicated workspace in people's homes, (2) changes to real estate developers'

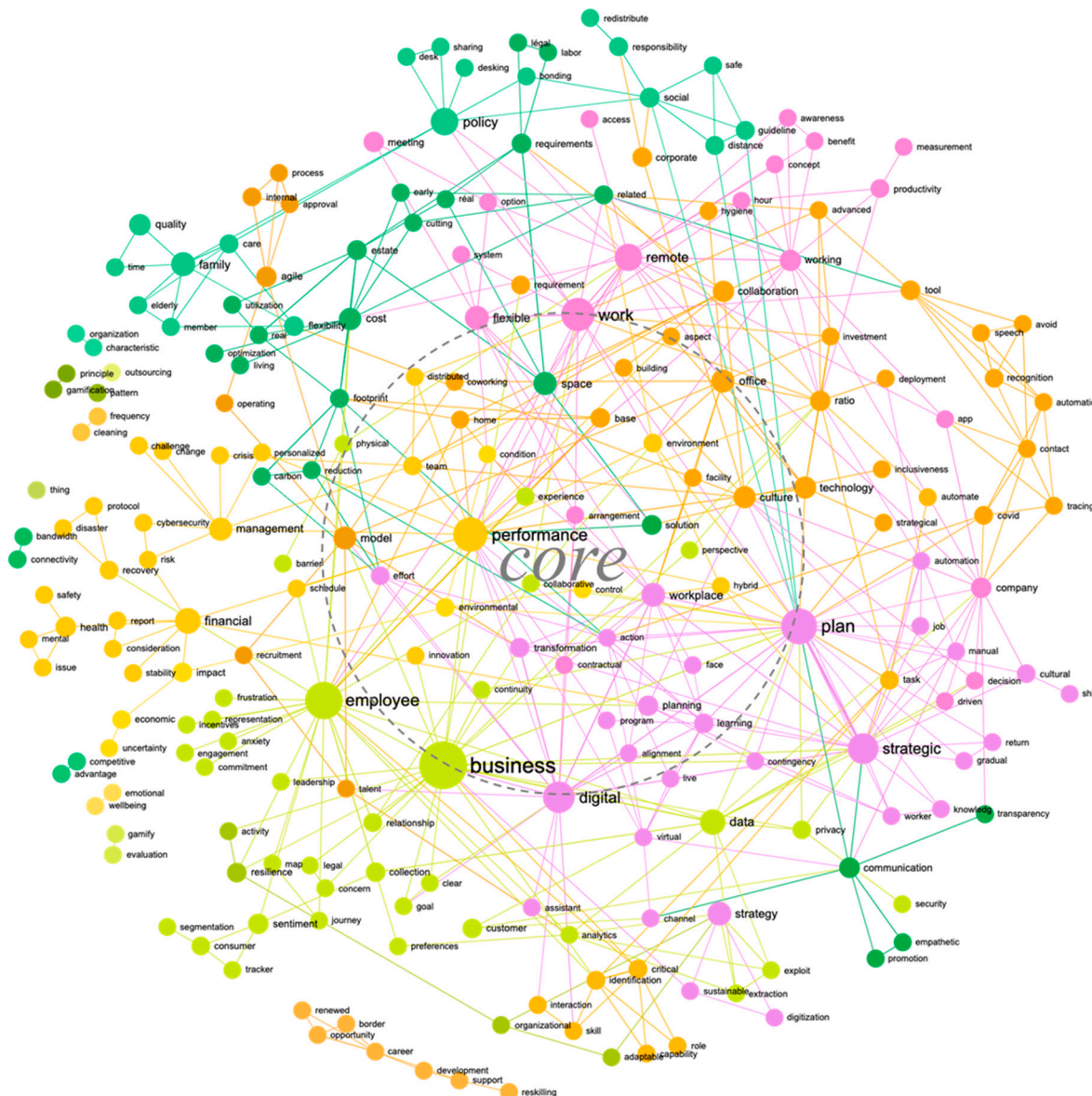


Fig. 6. Remote working and new sense of workplace potential indicators clusters. Own elaboration.

business models, with consumers demanding special areas or rooms dedicated to a home office, and (3) the implementation of remote work (fully digital) and hybrid work (physical-digital mix) tasks. The latter changes rely heavily on technology and require powerful collaborative tools, highlighting the importance of solving existing challenges.

The hybrid work model allows companies to achieve more flexibility, benefit from technology, optimize related real estate costs, and ensure that they have the right people. The future may be uncertain, but the opportunity is clear. Employees, however, will continue to attend the office, and organizations must adapt the workplace to accommodate them by implementing appropriate health and safety and hygiene and security measures while also improving their transparency and communications.

5.3. Practical implications

In previous studies, the strategic categories identified in the process of reimagining the workplace after COVID-19 led to a main category: some common corporate policies, translated into practical action, could help people's engagement with their work (Rožman and Štrukelj,

2020b). These policies are concerned, in brief, with the physical redesign of the workplace, work flexibility, family reconciliation, and employee health. The study of these policies, based on data analysis, has opened up different paths of research that can allow the establishment of models directly related to employee satisfaction. There has been a massive shift toward remote working in the past year, but technological advances have played an important role in how companies bring employees back to the workplace. Whether an organization opts for a hybrid work arrangement or a hub-and-spoke model, technology is key to this process.

The term "new normal" has been used to refer to the changes in the way people live and work due to the pandemic, to how elements such as telecommuting, safety and health, and adaptability were addressed during the pandemic, and to the challenges organization had to face such as managing telecommuting, implementing health and safety measures, and adapting to change. The present findings show that existing literature reveals discrepancies between how "things were supposed to be implemented" and "how they were actually implemented" during the pandemic.

The present analysis shows that the changes required under the

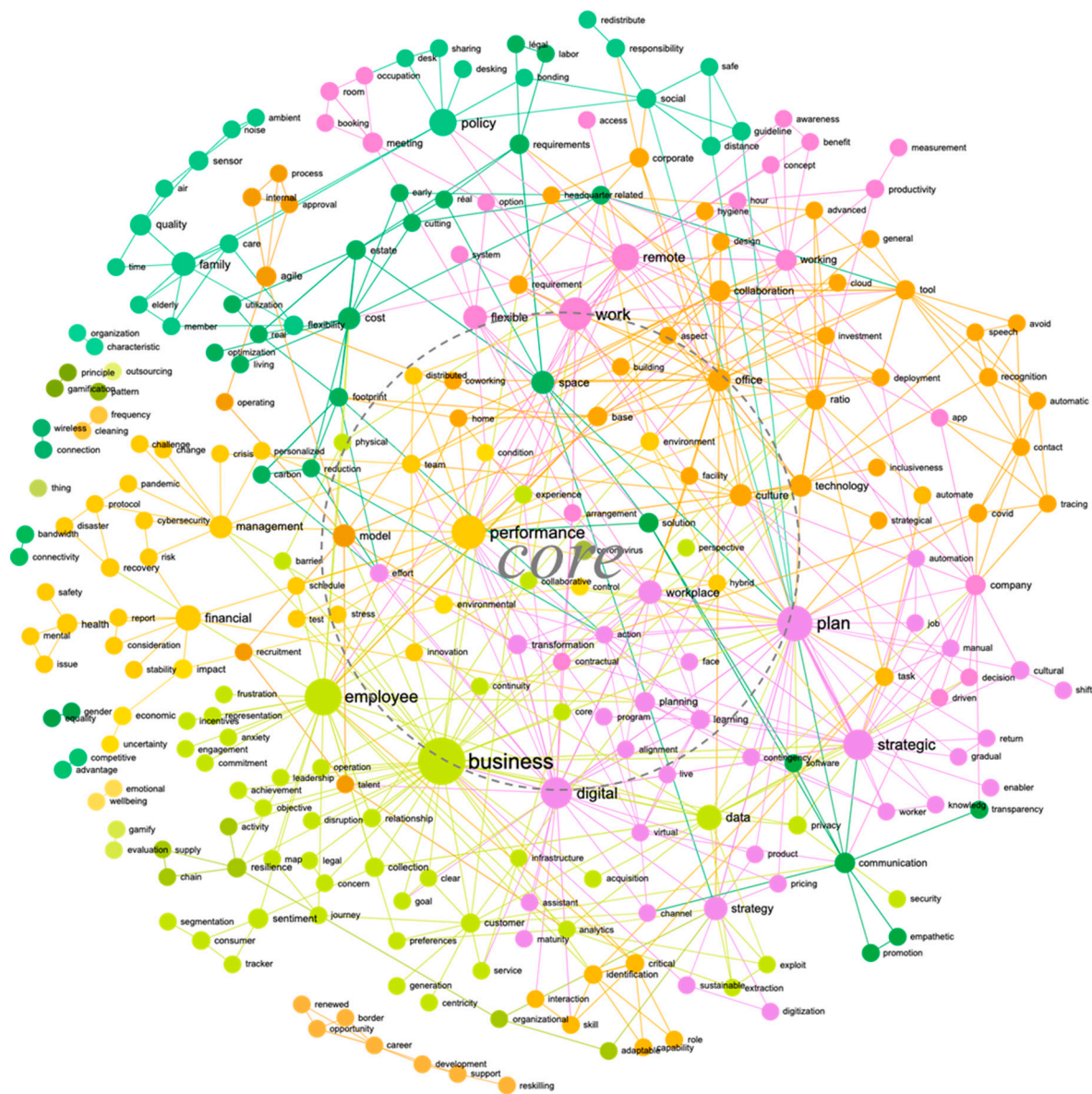


Fig. 7. Summary of identified indicators. Own elaboration.

headings “Break with the Past” and “Workplace Redesigned” are made possible by the existing “Technology” and, to a large extent, by the “Digital Strategy” that many companies already had or had been preparing for (De Lucas Ancillo et al., 2020; EY, 2020a).

Technology and digital transformation have facilitated remote working and led to new forms of workplace, but full employee engagement is still a long way off. Workplace health and safety has moved quickly to the forefront of workplace discussions. Because many employees prefer to work in an office rather than at home, much work is required of companies in creating a safe workplace. Alternatively, concerns some workers may have about returning to the office can be minimized by using health and safety apps to keep occupancy levels low, completing health checks before entering the space, and getting employee feedback.

For some workers, the growth of remote working will be no problem as their workplace can be anywhere in the world. Some countries are trying to compensate for the lack of tourism by attracting remote workers, offering pleasant weather, beaches, a low cost of living, or a better lifestyle.

On the other hand, the physical workplace will never disappear

completely, since working together in the same place has its advantages. Businesses are recognizing that their employees' performance is becoming more important than how much time is spent in the office, so workplace flexibility will become increasingly important where it is facilitated by the type of work and the appropriate technology and connectivity.

5.4. Research limitations

A number of limitations should be noted, as follows.

Although the bibliographic material is abundant and the selected publications on previous research have increased, the number of journals, occasional surveys and reports regarding workplace transformation is still limited relative to the wide intended scope of the research. That is, it is a narrow selection of the thousands of publications generated during the COVID-19 pandemic.

Despite the large amount of data processing conducted in the research, and the common points convergence, categorization, and clustering produced by the analysis, the analysis of local regions is impossible because the available publications and datasets refer to

international regions.

The choice of timeframe was limited: it was extended from the start of the pandemic to February 2021. By setting a specific geographical scope or extending the number of reports, the indicators could be refined, and the classification of the five categories could be further finetuned.

Finally, during the analysis, terms and concepts were redefined in the context of the post-pandemic, such as gamification, collaborative environment, career development, engagement, and sustainable digitization. A repeated review of the literature will be needed, in the future, to confirm their new implications for society and organizations.

5.5. Lines to follow

Because this paper follows some of the lines previously proposed by De Lucas Ancillo et al. (2020), the authors kept to a research path already traced: that is, with the five strategic categories considered important for people's engagement with their workplaces. Therefore, due to the limitations in these categories, several research lines are recommended for further investigations:

- (1) It is important to consider both core and non-core tasks when measuring performance; this opens up a new possible research line, especially in making pre- and post-pandemic comparisons. Core tasks are those essential to the success of an organization and are directly aligned with its goals and objectives. Non-core tasks are those not directly related to the organization's core business but still important for its overall operation.

For example, if an organization is in the business of selling software, core tasks might include developing new software products, selling and marketing existing products, and providing customer support. Non-core tasks might include facilities management, HR, and financial management. Both core and non-core tasks are important for the overall performance of an organization, and it is important to measure and assess the performance of individuals and teams in both types of tasks.

- (2) The potential indicators and clusters relationships identified could be developed into measurable KPIs.

Similarly, the mathematical indicators and modelling developed here could be converted into an interesting tool for monitoring the evolution of workplace progress. In addition, these indicators can be combined to form "super-constructs" - key indicators that could establish international measurement ratios for remotely monitoring working maturity and progress in overcoming the effects of the pandemic.

- (3) The analysis could be extended within a common time frame by using additional datasets, especially periodic sources.
- (4) Future work could go deeper into the classification of the categories and how they connect human beings with new forms of workplace, by analysing the evolution of the proposed clusters over a longer time frame, which may help to reinforce the categories studied in this paper.
- (5) Future work should explore the social, psychological, and well-being factors related to the categories studied here. Because the research was initiated within the framework of a pandemic that has not yet ended, in which there may be outbreaks and new waves, it is especially important that we deepen our understanding of the relevance of the workplace in the employee's engagement with their organization.

Finally, new hypotheses can be established on the real situation of teleworking after, for example, two years of "post-pandemic" and tested by analysis of whether and how the habits of workers and companies have changed.

Authors statement

Nothing to be indicated (no financing, etc.)

Data availability

Data will be made available on request.

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