

# How do human relationships change in the digital environment after COVID-19 pandemic? The road towards agility

Leadership  
after COVID-19

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## Abstract

**Purpose** – The coronavirus disease 2019 (COVID-19) pandemic has led to a global digitalization of organizational activities: the pandemic forced people and organizations to profoundly review values, purposes and norms. However, the research on how digital technologies impact human relationships and interactions at work results fragmented. Still, the importance of understanding which behaviors and norms enhance social interactions and organizational performances in digital environments remains critical, especially after COVID-19 advent. Therefore, this study explores how human relationships change in a wholly digital environment and what to expect for the new normal.

**Design/methodology/approach** – The study first explores the research gap through a systematic literature review to clearly understand what emerged so far. Second, through semi-structured interviews and a focus group, an empirical analysis was conducted.

**Findings** – Findings suggest that both work and emotional dimensions are crucial to nurturing human relationships in a digital environment. More precisely, the study unveils the need for innovative leaders to review their approaches to communication and the work experience and consider the emotional dimension in terms of community purpose and individual well-being, while identifying rituals as an overlapping tool. Finally, the authors propose a parallelism between these results and the agile revolution to inspire leaders to rethink their leadership and behaviors getting closer to the agile approach, which may represent a valuable way to rethink human relations in our professional environment.

**Originality/value** – The paper sheds light on an ongoing phenomenon that touches the lives of each organizational actor. The two-step structure hopes to provide both a structured base of the knowledge developed to date, proposing a systematic view of what has been studied since the outbreak of the pandemic to date and to provide insights for future developments.

**Keywords** Digital work, Human relationships, Leadership, Agile, Organizational innovation

**Paper type** Research paper

## Introduction

Since the early 2000, digital technologies have permeated organizations by unifying virtual and physical worlds and offering a seamless experience (Schwarz Müller *et al.*, 2018). The impact of digital tools inside the organizational environment has been so pervasive that it has generated a radical transformation inside firms by transforming the nature of work itself

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(Larson and DeChurch, 2020). For instance, digital technologies forced organizations to redefine business processes by impacting firms' value creation models and modifying the competencies needed and interactions among the stakeholders involved (Verhoef *et al.*, 2019). Therefore, the increased and pervasive adoption of digital technologies has started to influence the way people work and perform; eventually, affecting the competencies needed to work through digital technologies (Barley, 2015). This highly interrelates with the great diffusion that agile approaches had over the last decade, even outside the software industry (Birkinshaw, 2018; Magistretti *et al.*, 2019).

At the same time, virtual environments seem to impact how relationships and interactions among organizational actors occur (Empson and Howard-Grenville, 2021). In the last years, the COVID-19 pandemic has accelerated these dynamics leading to a global and forced digitalization of organizational activities. Even if the pandemic is expected to end, work practices after it are expected to be profoundly renovated. The pandemic forced people and organizations to profoundly review values, purposes, and norms (Frisch and Greene, 2021) and challenged them to adapt activities, skills, and mindsets to face the new context (Mysirlaki and Paraskeva, 2020).

The digitalization of work activities implies that teamwork and people interactions are mediated by virtual communication tools, like video calls, instant messaging, and knowledge-sharing platforms (Schwarz Müller *et al.*, 2018). This has both positive and negative aspects from a human perspective. On the one hand, digitalization increases flexibility both in space and time, enabling people to work from everywhere and easily balancing personal and work duties (Liao, 2017). Further, digital tools allow an easier global collaboration on problem-solving activities, overcoming the boundaries of traditional working hours and spaces (Colbert *et al.*, 2016). On the other hand, digitalization hinders the spontaneity of human interactions (Iannotta *et al.*, 2020) due to the almost total absence of serendipity and informal gathering by directly impacting trust-building and communication (Frisch and Greene, 2021). Such drawbacks may cause lower knowledge exchange among people, an issue that could dramatically hinder the innovation rate of individuals, and thus organizations (Putra *et al.*, 2020). At the same time, both trust and communication are crucial in a virtual environment. The former is fundamental to overcome skepticism and judgments that easily emerge when collaborating in a few and fragmented interactions (Schilke and Huang, 2018). The latter is vital for people to forge mental connections and emotional synergies (Zamani and Pouloudi, 2021).

The ones mentioned above are preliminary studies, many of which were published during the COVID-19 pandemic. Nevertheless, the research on how digital technologies impact human relationships and interactions at work results still fragmented. Still, the importance of understanding which behaviors and norms enhance social interactions and organizational performances in digital environments remains critical (Cox, 2006), especially after COVID-19 advent. The pervasive impact of COVID-19 creates a moment to critically reflect, both personally and organizationally, on the sustainability of past behaviors (Empson and Howard-Grenville, 2021). People become aware of the critical role of collaboration and maintain vivid human relations, even more when work is constantly performed remotely, defining a new lifestyle to cope with it (Almeida *et al.*, 2020). However, despite the literature considers human relations hindered by the lack of social connections; apparently, there is not a consistent view regarding how to conceive human relationships in the digital world. Literature extensively studies human relationships from a functional perspective, looking at the tools and methods to manage the geographical distance (Cortellazzo *et al.*, 2019; Van Wart *et al.*, 2017), or focused on the capabilities and traits for effective leaders and virtual teams (Iannotta *et al.*, 2020). However, there is a gap in identifying the behavioral and human practices underlying human relationships in a digital context. Therefore, the present study aims to understand how human relationships change in a wholly digital environment and what to expect for the new normal.

This study aims to explore this gap through two main steps. First, a systematic literature review was performed to understand what has emerged so far. Second, an empirical analysis based on primary sources was carried out to expand the literature review results and understand how people are coping with challenges posed by digitalization. More precisely, seven managers from leading international companies were interviewed, assessing how human relationships changed because of forced digitalization caused by the pandemic. Following the interviews, 30 people were involved in a focus group, where the topics from the interviews were explored further. The research contributes to the literature by understanding emergent behaviors in the nascent field of virtual human relations after the COVID-19 pandemic. It is concerned with a more practical objective to allow individuals to frame and comprehend the relational dynamics and define guidelines to be followed to establish human relations to improve their value. The paper is organized as follows. First, the methods adopted for the systematic literature review and the empirical part are introduced. Then, for both parts, the results are presented. Finally, a closing discussion and contributions are provided.

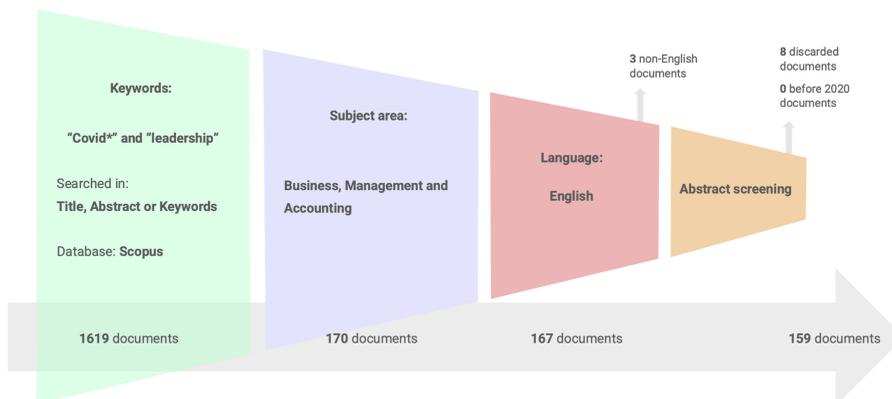
## Method

### *Systematic literature review*

In the last two years, there has been a proliferation of studies in both academic and practitioners' outlets on how to cope with the new environment brought on by the pandemic (Empson and Howard-Grenville, 2021) and, precisely, how organizations need to adapt the work of their people when fully digital (Cortellazzo *et al.*, 2019). Therefore, to have a comprehensive understanding of what said so far concerning human relationships in a digital environment, a systematic review of the literature was performed (Tranfield *et al.*, 2003), leveraging on both traditional (e.g. Lill *et al.*, 2020) and bibliometric approaches (e.g. Suominen *et al.*, 2019; Trabucchi *et al.*, 2020).

*Sample selection.* This study adopted a systematic approach to reach the final sample articles (e.g. Randhawa *et al.*, 2016; Magistretti *et al.*, 2020), summarized in Figure 1, with a final sample of 159 articles. The research phase was conducted during 2021; therefore, the literature search is updated to February 2021.

The review process was conducted by relying on the Scopus online database. Scopus was selected for its comprehensiveness as, being less selective than others, it potentially leads to a broader selection of available international outlets. This aspect convinced the authors to select it as their preferred choice due to its suitability with such a cross-cutting topic as the human relationships in a digital environment (e.g. Ghezzi *et al.*, 2017).



**Figure 1.**  
The paper's filtering  
process and definition  
of final database

The process starts from a preliminary exploration of the area of interest to define the optimal combination of keywords used afterward to create the final sample. After several iterations, the final query has been selected. As previously mentioned, the COVID-19 pandemic brought in organizations a pervasive change, which obliged firms to reorganize all the activities virtually, shaping new relational dynamics (Bhattacharyya and Thakre, 2021). The pandemic also influenced people's cognitive and relational processes, at both individual and group (Rudolph *et al.*, 2021; Empson and Howard-Grenville, 2021). Therefore, the first keyword selected was "Covid\*", to include all the keywords related to COVID-19, such as COVID-19, COVID-19, and similar. The second keyword selected was "leadership". The definition of this keyword has been driven by the aim to maintain the focus of the research on a personal and human perspective, analyzing how people embrace the external changes by adapting their behaviors to the new digital environment.

Therefore, the final query has been composed only by the two previously presented words. During the several iterations performed to achieve the final composition of words, other queries have been tested, such as "Covid\*" and "relation\*" or "Covid\*" and "human". Although the words selected were aligned with the scope of the research, the resulting databases were either not aligned in terms of contents or too narrow to constitute a consistent database. The first step of the process provided 1,619 documents containing both "Covid\*" and "leadership" in title, abstract, or keywords. The following steps limited the results to the area ("Business, Management, and Accounting") and the language (English), bringing to 167 documents. In conclusion, the authors have reviewed all the abstracts independently, obtaining a final sample of 159 articles by excluding all the out-of-scope papers. The papers resulting in the final sample have been read and analyzed both qualitatively and quantitatively through text mining.

*Text mining analysis.* Text mining aims to find detailed conceptual insights through unstructured ontological discovery using words as the unit of analysis. It shows a systematic and unbiased content-driven literature review (e.g. Biesenthal and Wilden, 2014; Randhawa *et al.*, 2016). It is becoming more popular in innovation research (Antos *et al.*, 2020; Trabucchi *et al.*, 2020). Leximacer 5.0 textual data mining software was used to produce the result of this latest quantitative analysis (e.g. Randhawa *et al.*, 2016). Previous research has shown that these tools exhibit close agreement with expert judgment (Rooney, 2005). The analyses performed by the software are intended to highlight the most frequently used concepts in a text and to define the relationships between them.

The software was used to systematically reveal critical concepts in the field through the identification of seed words (thematic document analysis) that were linked through frequency and co-occurrence in their contexts (semantic analysis) (Mathies and Burford, 2011). All the irrelevant or distracting concepts were removed (e.g. recurring formatting terms like Figure, Table, or DOI) (Thomas, 2014). Besides, even the word "Covid\*" was eliminated since it pervasively impacted the final map by obscuring all the other findings related to leadership and human relation in a digital environment.

#### *Empirical analysis*

The empirical part of this study aims further to explore the literature review results through primary sources to see what is effectively happening and how organizational actors are coping with the new work environment and which behaviors are put in place. More precisely, we rely on data gathered through interviews and a focus group. The study design entailed semi-structured interviews with a selected group of managers. Interviews' outputs were used to inform a focus group where diverse people were engaged. The adoption of a mixed-method, combining interviews and focus groups, follows the approach of Hargreaves (2004). He advises that in addition to the one-off interview that could significantly report personal views and opinions, the introduction of a focus group discussion can provide arguments on issues from

different contexts and perspectives, instantly generating critical thinking on the topics of discussion. The participants both for the interviews and the focus group were selected within the community of IDEaLs (Press *et al.*, 2021). IDEaLs is a global research platform created by the School of Management of Politecnico di Milano and leading international companies. At IDEaLs, academics and practitioner perform research about innovation and leadership.

*Sampling and data collection*

Seven experts were selected within the IDEaLs community. The sample selected included managers from IDEaLs partners (one manager per company) and thought leaders that inform and support the platform’s research. Table 1 summarizes the characteristics of each expert involved. We ensured heterogeneity in our sample (Eisenhardt and Graebner, 2007) by selecting experts differing in industry, tenure, and roles in the organization. As an additional selection criterion, we ensured that the experts selected directly managed people and were concerned in the digital environment.

The chance to rely on people part of the XXX platform generates a convenience sample, but it is also highly aligned with the research goal. Indeed, the XXX platform gets together managers interested in co-developing, believing in a Mode 2 approach based on action and design science research (Shani and Coghlan, 2019; Collatto *et al.*, 2018), new ways to engage people in innovation activities, acting as innovation leaders. This makes all the respondents involved in the research, as professionals who have managerial roles within their organization – having, therefore, a direct experience on the research topic – and also peculiar attention to the human dimensions and their evolution within their company.

We conducted and recorded at least one interview with each expert (see Table 2) for a total of 365 min and adopted a semi-structured interview protocol (Bell *et al.*, 2018; Yin, 2009). The interviews were all conducted through Microsoft Teams between April and May 2021. Before each interview, respondents were informed about the research aim and the themes of the interview without revealing findings from the literature to avoid bias (Mathauer and Imhoff, 2006). The interview’s questions investigated the experts’ experience within the past year of complete and forced digital work, focusing on critical episodes related to relationships and interactions among people.

*Focus group.* The interviews with the experts informed the focus group, which was structured according to the key topics that emerged from the interviews. Comprehensively, four sessions of 60 min each were organized, for a total of 240 min. Participants at the focus group included: the experts interviewed, the research team, and other people joining from XXX partners for a total number of 30 people. Questions to be discussed during the session

Expert ID	Industry	Country	Role	Gender
Expert_1	Healthcare	Netherlands	Vice President - Head of Design Strategy and Design Innovation	Male
Expert_2	Pharmaceutical	Italy	Training Global HR and Open Organization	Male
Expert_3	Transportation and Logistics	Italy	Marketing Manager	Male
Expert_4	Chemicals and Energy	South Africa	Head of Growth and Innovation	Female
Expert_5	Education	America	Director of Univeristy Design Lab, former Vice President	Male
Expert_6	Strategic consultancy	America-Korea	Executive Coach, Leadership Designer and CEO International	Female
Expert_7	Strategic consultancy	Australia	Managing Director	Male

**Table 1.**  
Empirical analysis  
sample details

came directly from the interviews performed. All the participants were asked to watch the recording of experts' interviews and provide two questions per each interview they would like to deepen during the focus group. The authors sorted all the questions received and submitted them during the focus group. Therefore, the focus group was a forum where ideas could be clarified rather than simply as a 'natural event' (Kitzinger, 1994). Sessions were conducted in a relaxed fashion with minimal intervention from the facilitator interfering only to maximize participant interactions, like encouraging discussion or reflection if differences in perspectives emerged. In this way, when group dynamics worked well, the co-participants acted as co-researchers taking the research into new and often unexpected directions and engaging in interactions that were complementary (such as sharing common experiences) and argumentative (questioning, challenging, and disagreeing with each other). The verbal discussion has been the primary source of data; however, the facilitator also leveraged the chat to spark further conversation.

*Data analysis.* We analyzed the data using a structured coding approach (Corbin and Strauss, 2008). One of the authors performed the data analysis independently, subsequently validated by the co-authors (Saldaña, 2015). The coding started from line-by-line coding to identify the first-order codes (Gioia et al., 2013), analyzing data from interviews and focus groups. Next, the first-order codes were examined and compared to one another to be further grouped into second-order codes, formulated by clustering concepts similar in characteristics or related in meaning (Liu et al., 2017). The coding output was validated and refined following an iterative process to reach the final configuration by merging or adding order codes to gain structural consistency (Gasiewski et al., 2012). We checked the internal validity through pattern matching. Then, an external researcher validated the codebook to increase the reliability of the research process. Finally, we created the coding tree (Figure 2).

## Results

### *Results and findings from the literature*

*Descriptive results.* Because of the keywords "Covid\*", as expected, papers in the sample are all published between 2020 and 2021 (the last paper considered available for the analysis dates back to April 2021). In line with the purpose of this article, several articles explicitly leveraged the unique setting provided by the pandemic to explore how people coped with the complete digitalization. More precisely, studies presented the COVID-19 environment as the perfect arena to test some theoretical hypotheses on leadership and organizational behavior (Blake-Beard et al., 2020; Panayiotou, 2020; Wardman, 2020).

As abovementioned, the pandemic had a global impact, affecting the organizational performances regardless of the industry. This pervasive effect is reflected in the variety of journals present in the sample (Figure 3).

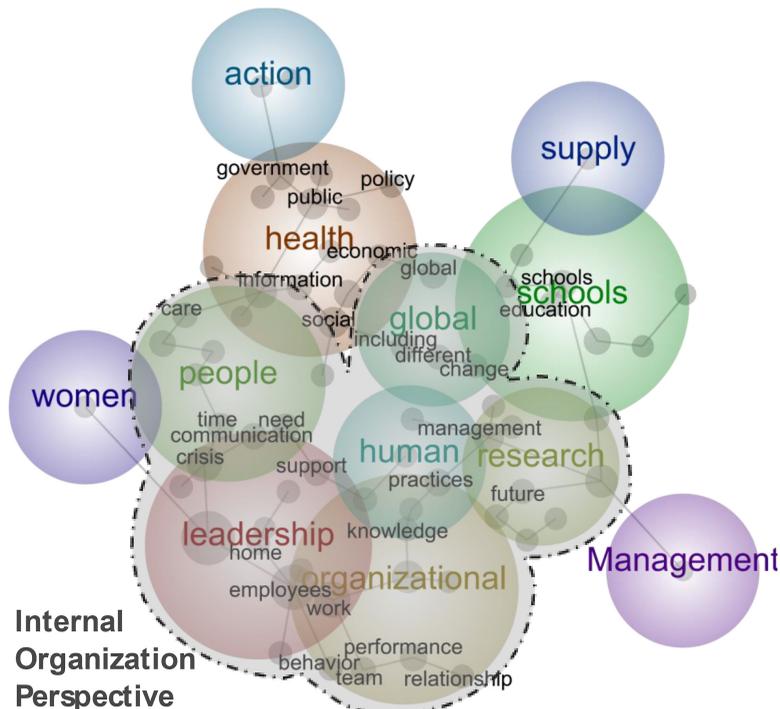
**Table 2.**  
Data collection:  
number of interviews  
and total minutes  
recorded

Expert ID	Number of interviews	Total minutes recorded
Expert_1	2	60
Expert_2	2	60
Expert_3	2	95
Expert_4	2	60
Expert_5	1	30
Expert_6	1	30
Expert_7	1	30
	11	365



**Figure 2.**  
The first 20 journals in  
terms of number of  
articles published

Not surprisingly, the journal with the highest number of publications is *BMJ Leader*, focused on leadership in healthcare. Nevertheless, among the others most popular journals, there is a good variety of topics, such as public administration (e.g. *The American Review of Public Administration*, *Public Administration Review*), HR management (e.g. *Human Resource Development International*), gender studies (e.g. *Gender in Management*), education and



**Figure 3.**  
The output of the text  
mining analysis on the  
entire sample. Spheres  
that relate to the  
internal organization  
perspective are  
highlighted

school (e.g. *Journal of School Administration Research and Development*) and primarily organizational behavior (e.g. *Organizational Dynamics*), showing the high heterogeneity of disciplines that approached this timely topic.

Through a preliminary qualitative analysis of titles and abstracts, studies in the sample seem to take mainly two complementary perspectives (Table 3): one related to stakeholders internal to the organization and one related to external stakeholders. The former is composed of 84 articles that focus on topics such as (1) leadership practices and new internal strategies to cope with workplace transformation (e.g. Donthu and Gustafsson, 2020), (2) leaders' characteristics that could be more powerful in this environment compared to the past (e.g. Maak et al., 2021), (3) how the leader differently relates with employees (e.g. Yeo, 2020) and (4) how to define a model to innovate when remote working and higher stress from the external environment occur (e.g. Hodgetts, 2020). The latter analyzes human relations with external stakeholders in the market, sometimes with an industry-specific focus. For example, many studies analyze the leadership of political leaders (e.g. Kettl, 2020) and their communication strategy to reassure people during the crisis (e.g. McGuire et al., 2020); others focus on how the logistic (e.g. Pillay and Scheepers, 2020) or the air industry cope with the pandemic situation (e.g. Welch, 2020).

Despite this clear distinction in perspective, the internal stakeholder perspective appears as the most relevant. Indeed, looking at the most cited papers (Table 4), it emerges how, among the twelve most cited, more than half debate about internal organizational and leadership practices (e.g. effects of COVID-19 on business and research or Leadership, management and command in the time of the coronavirus).

*Text mining.* The text-mining analysis allows a systematic review of all the papers in the database, providing a conceptual map as output, highlighting the most relevant concepts and themes present in the papers (e.g. Randhawa et al., 2016). This methodology enables a deeper level of analysis by decoding the themes that the literature focused on. The output of the analysis consists of overlapping bubbles representing different themes that include concepts that share a related meaning; the size of the circles indicates how many concepts were grouped to form a given theme.

The output of the analysis performed is the map presented in Figure 4. Through the analysis of each sphere (thematic area), some included themes are out of scope for the present study and therefore excluded by further analysis. In particular, the spheres "women", "health", "action", "supply", "schools", and "management" related to leadership behaviors aimed to find solutions to overcome the threats caused by the pandemic. For example, the "health" sphere considers papers that explain the safety measures applied by organizations and the public sector (e.g. social distancing). Similarly, the "supply" sphere presents the

Perspective	Main topic	Key references
Internal stakeholders	Leadership practices for workplace transformation	Donthu and Gustafsson (2020), Kashyap and Raghuvanshi (2020), Aguinis and Burgi-Tian (2021)
	Leaders' characteristics	Maak et al. (2021)
	Leaders-employee relationship	Yeo (2020), O'Rourke (2021), De Moura et al. (2020)
	Innovating when working remotely in stressing situations	Hodgetts (2020)
External stakeholders	Leadership of political leaders and communication strategies	Kettl (2020), Ansell et al. (2020), McGuire et al. (2020)
	Logistic industry issues in the pandemic	Pillay and Scheepers (2020), Ayesh et al. (2021)
	Air industry issues in the pandemic	Welch (2020)

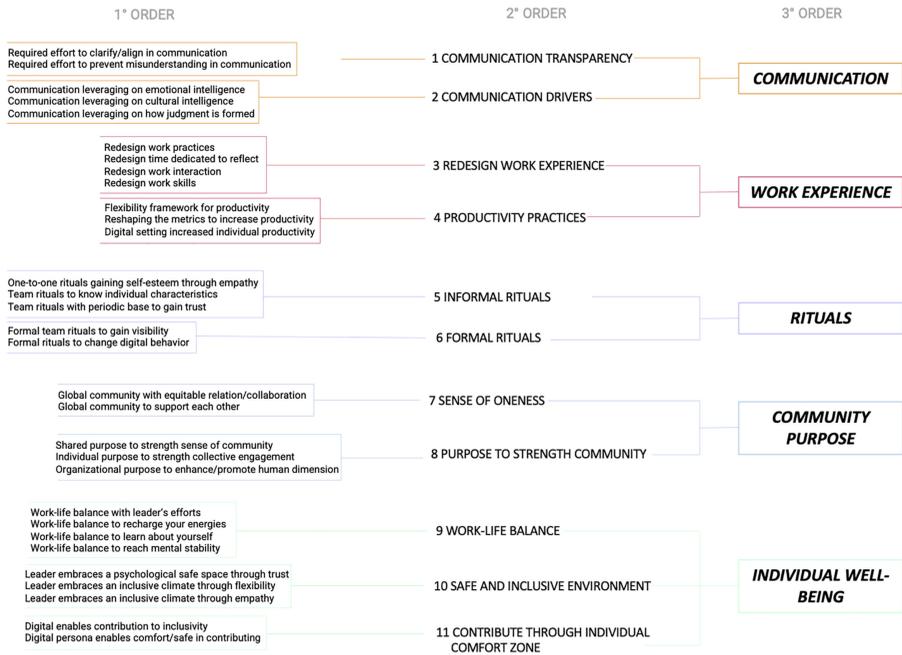
**Table 3.**  
Main perspectives undertaken by studies in the sample

Authors	Title	Year	Journal	# of citations
Donthu N., Gustafsson A	Effects of COVID-19 on business and research	2020	<i>Journal of Business Research</i>	77
van Barneveld K., Quinlan M., Kriesler P., Junior A., Baum F., Chowdhury A., Junankar P.N., Clibborn S., Flanagan F., Wright C.F., Friel S., Halevi J., Rainnie A Wilson S	The COVID-19 pandemic: Lessons on building more equal and sustainable societies	2020	<i>Economic and Labour Relations Review</i>	31
	Pandemic leadership: Lessons from New Zealand's approach to COVID-19	2020	<i>Leadership</i>	26
Caligiuri P., De Cieri H., Minbaeva D., Verbeke A., Zimmermann A	International HRM insights for navigating the COVID-19 pandemic: Implications for future research and practice	2020	<i>Journal of International Business Studies</i>	23
Carr A	COVID-19, indigenous peoples and tourism: a view from New Zealand	2020	<i>Tourism Geographies</i>	23
Gupta V., Ivanov D., Choi T.-M	Competitive pricing of substitute products under supply disruption	2021	<i>Omega (United Kingdom)</i>	16
Dirani K.M., Abadi M., Alizadeh A., Barhate B., Garza R.C., Gunasekara N., Ibrahim G., Majzun Z	Leadership competencies and the essential role of human resource development in times of crisis: a response to Covid-19 pandemic	2020	<i>Human Resource Development International</i>	14
Stoller J.K	Reflections on leadership in the time of COVID-19	2020	<i>BMJ Leader</i>	14
Kettl D.F	States Divided: The Implications of American Federalism for COVID-19	2020	<i>Public Administration Review</i>	14
Bartsch S., Weber E., Büttgen M., Huber A	Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic	2020	<i>Journal of Service Management</i>	13
Comfort L.K., Kapucu N., Ko K., Menoni S., Siciliano M	Crisis Decision-Making on a Global Scale: Transition from Cognition to Collective Action under Threat of COVID-19	2020	<i>Public Administration Review</i>	11
Grint K	Leadership, management and command in the time of the Coronavirus	2020	<i>Leadership</i>	10

**Table 4.**  
The most cited papers  
in the database

adaptation of supply chain processes because of the change in the demand. All the other spheres have been grouped in a macro cluster named “Internal Organization Perspective” since they provide insights related to human relationships, people behavior, and leadership practices within an organizational environment concerning the adaptation of human interactions and how they have been adjusted in a digital environment. Table 5 summarizes the main topics that emerge within each sphere. In what follows, each sphere is introduced.

The “leadership” sphere is the biggest one on the map, hence the most relevant. It considers most of the topics presented by the articles. Therefore, its analysis clarifies the connections and structure of the overall map, clarifying the most relevant dynamics



**Figure 4.**  
Coding tree from the  
analysis of the  
interviews and the  
focus group

presented in the database. From the analysis of the papers in this sphere, four main topics emerge:

- (1) Employee well-being: this is the main topic as it represents the connection point with all the other spheres on the map. Studies interested in this topic area highlight how people well-being, concerning the digital environment, should be considered from a holistic perspective: it regards the mental, emotional, and physical balance (e.g. [Dirani et al., 2020](#)).
- (2) Communication style: as a consequence of the nurturance of holistic well-being, communication styles based on empathy, charisma, and sensitivity are crucial to nurturing employees' motivation and wellness (e.g. [Sadhna et al., 2020](#)). Besides, communication is perceived as effective in the digital environment if it is constant and reliable, meaning that an open channel always exists ([Zhang et al., 2020](#)).
- (3) Virtual team support: to support team performances, task-oriented leadership and relation-oriented leadership are both crucial. The former reduces uncertainty (e.g. [Bartsch et al., 2020](#)), while the latter supports cohesiveness and autonomy to converge towards objectives ([Newman and Ford, 2021](#)).
- (4) Inclusive leadership: this topic area includes all the studies concerning practices to develop a shared psychological safe "virtual" climate where individuals are encouraged to disclose their personal view and to embrace other opinions (e.g. [Stoller, 2020](#)).

The "organization" sphere comprehends how organizational practices should change to foster knowledge sharing and performances even in a digital environment. Even for this sphere some topics emerged:

Leadership	Organization	People	Human	Global	Research
Employee well-being (Dirani <i>et al.</i> , 2020; Caringal-Go <i>et al.</i> , 2021; Klebe <i>et al.</i> , 2021)	Virtual Team Performances (Aguinis and Burgi-Tian, 2021; Newman and Ford, 2021; Kuknor and Bhattacharya, 2021)	Emotional connections to create a safe climate and trust (Standiford <i>et al.</i> , 2020; Thornton, 2021)	Concern towards the psychological sphere of individuals (Beauchamp <i>et al.</i> , 2021; Antonacopoulou and Georgiadou, 2020)	Human interaction in international activities (Caligiuri <i>et al.</i> , 2020; Bierema, 2020; Vaidya <i>et al.</i> , 2020)	Future research lines for small enterprises (Mollah <i>et al.</i> , 2021; Pramono <i>et al.</i> , 2021; Hølge-Hazelton <i>et al.</i> , 2021)
Communication Style (Sadhna <i>et al.</i> , 2020; Caligiuri <i>et al.</i> , 2020; Lee <i>et al.</i> , 2020; Newman and Ford, 2021; Caringal-Go <i>et al.</i> , 2021; O'Rourke, 2021)	Leader's Impact (Lee <i>et al.</i> , 2020; Ayesh <i>et al.</i> , 2021; Newman and Ford, 2021)	Emotional connections to foster human well-being (Sadhna <i>et al.</i> , 2020)	Being resilient in front of radical changes (Maak <i>et al.</i> , 2021; Yeo, 2020)	Creating global collaboration on problem-solving (Oborn <i>et al.</i> , 2020; Ratten, 2021; Bartsch <i>et al.</i> , 2020; Toleikienė <i>et al.</i> , 2020; Pramono <i>et al.</i> , 2021)	
Virtual Team Support (Bartsch <i>et al.</i> , 2020; Lagowska <i>et al.</i> , 2020; Newman and Ford, 2021)	Organizational Dynamics (O'Rourke, 2021; Toleikienė <i>et al.</i> , 2020; Kuknor and Bhattacharya, 2021; Bierema, 2020; Ahmad <i>et al.</i> , 2021; Dirani <i>et al.</i> , 2020; Lee <i>et al.</i> , 2020)				
Inclusive Leadership (Kuknor and Bhattacharya, 2021; Stoller, 2020)					

**Table 5.** Main findings from the six spheres clustered in the internal organization perspective and main references

- (1) Virtual team performances: from an organizational perspective, in a digital environment appears crucial to identify novel performance measure systems that can provide timely and meaningful feedbacks to teams (e.g. Aguinis and Burgi-Tian, 2021).
- (2) Leader's impact: in a virtual environment, the alignment between organizational and individuals' goals is not granted as people are dispersed, and interactions are scattered and purely virtual. Thus, in addition to taking care of people's motivation and well-being, leaders must also maintain alignment with organizational goals (e.g. Lee *et al.*, 2020).

- (3) Organizational dynamics: the quick digitalization forced by the pandemic has created a unique opportunity to review traditional organizational dynamics allowing organizations to define new visions and practices (O'Rourke, 2021). For example, the care about people well-being is bringing organizations to review their infrastructures and policies (Dougan *et al.*, 2020; Caringal-Go *et al.*, 2021), its technological assets to support remote work (e.g. O'Rourke, 2021), and its practices for an inclusive and healthy culture (e.g. Bierema, 2020).

The "people" sphere relates to the first two. It stresses the importance of emotional connections among individuals to create a safe climate abovementioned and trust (e.g. Thornton, 2021) and human well-being (Sadhna *et al.*, 2020).

The "human" sphere goes even more in-depth in these aspects concerning the individual, focusing on its psychological side (e.g. Beauchamp *et al.*, 2021). In this sphere is touched the importance of being resilient in front of radical changes and how to cope with them (e.g. Yeo, 2020).

The "global" sphere highlights the need to adapt the internal teamwork organization to smooth the virtual human interaction in international activities (e.g. Bierema, 2020) to facilitate collaboration regardless of people's nationality (e.g. Ratten, 2021).

Finally, the "research" sphere explores solutions and future directions leveraging the disruptive external change brought by the pandemic as an input to define and support social and environmental welfare (Carr, 2020). Besides, it highlights the opportunities provided by digitalization, even for small organizations, to enlarge their relational network (e.g. Mollah *et al.*, 2021).

#### *Literature takeaways and introduction to the empirical analysis*

The literature highlights which drivers of change influence human interactions people should consider in the virtual environment. The focus of the analysis maintained a behavioral perspective: the research aimed to understand the leadership practices and actions put in place to facilitate or sustain human relationships during remote working.

More precisely, three main takeaways emerged. First, the concern for individuals' well-being emerged as a primary interest during human interactions (Dirani *et al.*, 2020). The goal is to ensure individual well-being from a holistic perspective (e.g. Klebe *et al.*, 2021): not only from the emotional and physical perspective but also, and above all, from the psychological one. Human relationships become significant in creating the social support needed to promote cohesiveness, autonomy, and alignment (e.g. Lee *et al.*, 2020). This provides a shift in the perception of human interactions; they are not simply functional exchanges for organizational purposes but a driver for people development and motivation; at the same time, enabling them is a way to sustain business performances (Collings *et al.*, 2021).

These considerations lead to the second takeaway, which is connected to the importance of expressing personal emotions and feelings and accepting those of others. Therefore, new routines or virtual spaces should be designed to express emotions where people can use the power of humanity by showing individualized recognition and compassion toward others (Maak *et al.*, 2021). These efforts are further deployed to create an inclusive climate that supports the generation of diverse ideas (Bierema, 2020).

Third, organizations and leaders play a crucial role in ensuring individual well-being and a safe and inclusive climate (e.g. Dougan *et al.*, 2020). At the same time, they have the mandate to maintain a precise alignment on goals and performances (e.g. Newman and Ford, 2021).

The literature review let emerge the main opportunities and issues brought by a digital environment concerning people interaction. However, the emerging insights provide just evidence of what might be helpful in a digital environment for fruitful human interactions and relationships, more than what should be done to enable fruitful relationships. There is a lack

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in identifying which kind of activities or practices should be implemented for valuable human interaction. The empirical exploratory study aims to move in this direction, providing additional insights into the dynamics and methods that enable and nurture human interactions.

### *Results from the empirical analysis*

In what follows, we present our findings for each third order dimension emerged from the coding process (Figure 4).

*Communication.* The need to review and adjust the traditional communication style to the virtual environment emerged from the data. Both communication clarity and individual concern become crucial. Communication in a digital environment is fragile partly because of the lack of body language and non-verbal exchanges.

Communication transparency is fundamental to transmit personal views and ideas avoiding misunderstandings, as explained by a participant to the focus group:

Communication is key, and it is more important than ever that we are clear, effective and careful in considering who the people at the "table" are, considering they might have different perspectives (Focus Group Participant)

Our findings show how to reach clarity is essential to ask for and clarify unclear issues immediately and be available to go in-depth on open points:

Here, you have to continue to schedule and keep in mind the different perspectives, and in my opinion, here, the key is immediacy. If I am in doubt, I clarify the stuff that could be misunderstood. Because if you go back to the office in a week, or come back in a year, you do not solve the problem anymore (Expert\_3)

Such dynamics are task-related and relational-related: when communicating in a digital environment, people need to consider how emotions are conveyed not to be offensive.

And you want to be passionate about that point of view, it's ok, but I think the passion mustn't be misunderstood as an attack (. . .). It becomes a conflict situation that could be avoided if you just say: I hold a different point of view, please allow me to share, and I feel quite strongly about this point of view, but it's coming from a good place. We want to find the right outcome. I do not want to be right in this conversation; I want the right outcome for the company (Expert\_4)

To avoid such misunderstanding results crucial to clarify assumptions and the words used to make it easier to align communication among the different actors:

The role of languages is crucial (. . .) I think it's essential that we align language. With Tom, we started the future of design education, and I think it's also key in that endeavor that we have a shared understanding of language, what the output is and when we use certain words (Expert\_1)

The importance of clarifying the words used is strictly connected to the individual's willingness and capability to create a more profound connection with others. This is relevant especially in multicultural contexts: understanding how different people's cultural backgrounds could impact their willingness to contribute and the way they speak and interact becomes crucial.

Besides communication transparency, some drivers become crucial to overcome virtual barriers. Thus, empathy and emotional intelligence result in critical skills to establish personal connections with others. Expressing empathy means to care about the other person, not only from a professional/work perspective but also from a psychological one.

Only in this situation, I understood how it's impactful the question "How do you feel?" It's a way to get connected with other people. (Expert 2)

How do you feel is a question more related to your feeling and your empathy and this kind of stuff, and we are not dealing about, a specific output or PowerPoint presentation (. . .) But here we are talking about how do you feel? Which are your expectation for the next months?, There is something that is not working . . . Yeah, I saw you a little bit angrier, more, you know, sad sometimes, would like to talk about that? (Expert\_3)

*Work experience.* Such category presents how human interactions changed concerning work tasks and practices. Whole digitalization forces organizations to rethink and adapt work processes and activities. Our findings show how the first step is the development of awareness about the fact that things need to change and that everyone is in charge to contribute to the transformation:

These are period has been a prove for all our organizations to understand that probably to start the change is not so difficult or is not so impossible. (Expert\_2)

The pandemic forced upon us the opportunity and necessity to experiment as we all went digital. (Focus Group Participant)

Such transformation represented even an opportunity to adopt new tools and discover more effective ways to perform activities:

Acceleration of digital tools like the Miro boards. We use a lot and now and I think it provides a lot of structure and also a lot of structure to the project work, it should not only impact on the communication (Expert\_1)

However, the transformation caused human interactions to become very structured and always scheduled, destroying the randomness in physical offices. Such an aspect has several consequences. First, if each interaction is a meeting, then people's agendas are overcrowded of meetings; thus, people do not have enough time for individual work or reflection:

What got worst, especially in my agenda, is that everything became a meeting, so even quick updates are meetings, and we have many more webcast. So you are again filled up completely. It gives little time to think a little time, to reflect. (Expert\_1)

Second, informal interactions through casual meetings are entirely missing. The absence of serendipity hinders the creation of human relationships among different groups by preventing group contamination or hints of reflection:

The kinds of tools that we use in remote work are not adequate. We do not bond with the people that we meet. We do not have time to have just free time to go out to go to the coffee room and have coffee and just talk and just accidentally bump into people. (Expert\_6)

You missed that almost serendipitous problem solving on the go (Expert 5)

[in a digital environment] there's that time element in that is affecting the interaction. And the personal interaction is not there (Focus Group Participant)

In terms of productivity practices, a significant role is played by the flexibility provided by remote work. Indeed, if on the one hand individuals can work in any preferred time or space, on the other their choices inevitably impact on colleague's activities. Thus, a shared definition of guidelines and rules that regulate work interactions is needed. Besides, new metrics need to be identified to make this new work environment profitable.

Enabling flexibility might require reconsidering how we define KPIs and how we empower people and managers to let go of "order" in its classical sense. (Focus Group Participant)

The importance of role clarity and decision-making in this new way of work is raising. There is a fundamental difference between freedom to work from anywhere and specific individual accountability (Focus Group Participant)

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*Rituals.* The establishment of rituals relates to creating periodical moments of interactions. Our findings show how they are crucial to strengthening teams' cohesion and dynamics in a digital environment. Rituals provide a space where people connect and know each other more in-depth. We identified two main kinds of rituals: formal and informal.

Formal rituals are working moments aimed at exchanging competencies and fostering confidence in virtual collaboration. They address the individual performance sphere, simulate traditional team interactions, and nurture project development. Such rituals apparently help to manage the lack of serendipity in interactions.

But at least twice a week across the time zones, we find half an hour where we all check in on tasks that one needs to complete, which is impacting the work of another. So, that's been very, very good. And then we also do reviews and retrospectives (. . .) But in that hour of a review, we also get to debate and get different perspectives (Expert\_4)

Besides, our findings show how rituals are fundamental to drive transformation. Our interviews and focus group show how the regularity of rituals facilitated the transformation of people's behaviors. Expert\_1 affirmed that "I think rituals in the end are the things that change behaviors".

Informal rituals refer to those moments of exchange that go beyond work performances and relate to the more emotional and personal sphere. Such rituals seem crucial to foster people's confidence in sharing the most intimate thoughts and feelings, forge human relationships, and nurture cohesiveness. Such rituals happen mostly in one-to-one meetings that are even enhanced by the digital environment.

So we are one to one. No one knows that we are talking about something higher level or wider about behaviors or feelings and this kind of stuff related, of course, to work. (Expert\_3)

The effectiveness of these rituals lies in creating a space where individuals can safely express their emotions and thoughts, finding in the other person an active and safe listener. Therefore, one requirement to establish this mental and emotional bond with followers is speaking and acting with empathy.

Through active listening, we empower people to be the accountant of their actions and decisions (Focus Group Participant)

When these rituals happen at the team level, they enable mutual learning and foster confidence in working together by knowing each other a little bit more:

We started coffee sessions, but very informal coffee sessions, where everyone was invited, and then you can have smaller breakout rooms on a digital platform. And then that stimulated a bit of informal interaction, and then sharing occurs. And again, that's very unstructured and (. . .) also as part of those chats, uh, you know it goes beyond just checking in of where people are and how they're (. . .) but then also what's going on in the workspace. (Expert\_4)

*Community purpose.* The category Community Purpose refers to the willingness of people to perceive a sense of community, be part of it, and have a common purpose that can reinforce this perception.

Having a sense of community deals with feeling part of the same thing and perceiving collective unity. The digital environment has facilitated this path by breaking down hierarchical, geographic, and emotional barriers, allowing everyone to feel participating in digital meetings and contributing equally. Thus, making people feel as part of one cohesive community:

I think what went better is the cooperation over locations. In one country, but also over foreign countries and I think it had to do with that now everybody is equal in the meeting. And in the past,

the meetings were taking half digital and half in real real-life, and that relates to the different global parts of the company it felt more like one community. (Expert\_1)

Besides, our findings show that reduction of hierarchical differences, when interactions happen virtually, favors the development of human relationships:

The forced digital environment created in a way more equitable relations, a level playing field for everyone (. . .) Now the people at headquarter do not have that kind of privilege anymore, by reaching out to the people all in a digital environment. (Expert\_6)

Interestingly, remote working seems to strengthen the need of people to be part of a community. This might sound counterintuitive as digital technologies have been traditionally appointed as a tool that facilitates loneliness. Differently, our findings show how the claim for a community is even stronger in a digital environment, both to find answers and nurture innovation, as stated by Expert\_2.

People are creating new community because they need. In some cases, they need answers, and only the community can give you an answer or away to get your answers. Being a community inspired a positive reaction (. . .) it starts looking something around, someone who has the same feeling to a start creating something new. (Expert\_2)

At the same time, to feel part of the same community is crucial for a shared purpose. Having a shared purpose emerges as the need to know and understand the individuals' purposes and the common direction to move towards.

So it's the part of the purpose, it's the sum of the purpose that people have in their mind and starting collecting together these images, these feelings is something that can be the basis for a better community for a better restart. (Expert\_2)

Therefore, it emerges that having a community purpose, both individual and collective dimensions is crucial. In a way, such purpose seems to move beyond the more traditional purpose related to value creation but force companies to rethink their organization from a purely human perspective:

What I see is that this new way of thinking that we've been forced into because of the pandemic has created some wonderful opportunities to change our lives back to a much more human flow. (. . .) So, we have to do some other changes. But I think there's a possibility that this one year of forced remote work. Is allowing us to rethink the way that we live our lives to make them more meaningful. (Expert\_5)

*Individual well-being.* The last third-order code that emerged from the analysis relates to individual well-being. This category is more focused on the individual and its emotional dimension. The findings show how three dimensions need to be considered about individual well-being in the digital environment.

The first dimension relates to work-life balance. Compared to a physical work environment, where work time and spaces were clearly defined, complete digitalization cancel altogether time and space boundaries making personal and work-life blurred as explained by Expert\_4:

I think the negative to that though is this blur between work and life (. . .) it's blurred in the sense that if you talk about space and time our personal space is our workspace now (Expert\_4)

In many cases, the absence of boundaries in time and space led to a generalized increase of workload, which might be perceived as beneficial in the short term but detrimental in the long run for what concerned people's mental health, energy, and performances. People seem to enter in a loop from which they are not able to escape by themselves, as explained by Expert\_2 and Expert\_7:

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I think I'm my worst own enemy. Because an inspiration led me to work very long hours, and I was neglecting my time and just getting time to sleep. So, my body ran down, and I picked up a bug. (. . .) I needed to switch off, and I could not find a space to switch off, you know? And I had to remove my laptop and my phone from my sight and find a corner in the house where I could just play music and re-center. (Expert\_2)

The vast majority of people who ought to work with the organization have two main assets: their professional time or work time. That's the biggest assets in their life, and they need to develop that and do that in a place where they are being developed. (Expert\_7)

The findings show how those who oversee helping people manage this loop effectively are the managers themselves; namely, each has a group of people under his area of responsibility. Managers, therefore, are not anymore called to simply manage resources and competencies but to act as coaches. In this new role, managers need to recognize people's inability to take care of themselves and help them take the time to regain the energy to be even better performers. As stated by Expert\_4 and by a participant at the Focus Group:

The caution to that is to make sure that your people are looking after themselves, and the emotional and mental well-being is looked after. (. . .) Otherwise, it becomes so blurred that that could lead to very counterproductive outcomes. (Expert\_4)

Instead of a manager, see yourself as a coach. You are on the field with your people, you suffer with your people, you encourage your people, and by doing so, you can be trusted by your people. (Focus Group Participant)

This coaching activity forces people to have a greater awareness of themselves and to discover sides that, even for them, were obscure until that moment. This emerges clearly from Expert\_4 and Expert\_2:

I discovered I am more creative at night, so within a digital environment I am free to do a creative task at night and then have a run in the morning rather than start working immediately. (Expert\_4)

To understand that probably we have hidden asset or hidden energies we can use to adapt to a very unpredictable situation and understand how we can balance our life accordingly. (Expert\_2)

Besides work-life balance, individual well-being is strictly connected to establishing a safe and inclusive working environment. The creation of this safe space pass through the creation of trust where people feel free to propose ideas and share knowledge, as expressed by participants to the Focus Group:

It's fundamental to create a "safe" environment, either digital or physical, in which people feel free to express themselves. (Focus Group Participant)

A good practice is to "leave space" to the person by listening and giving the method. A good practice is about listening to people, not giving them the answer, leaving them the chance to find their way. (Focus Group Participant)

An inclusive and safe space is obtained even through flexibility and empathy. The former is related to openness in rescheduling activities and workload as explained by Expert 3:

And I try as much as possible to say to my colleagues and my people if you feel stressed if you feel overcrowded by projects you can also raise your hand and ask for help. (Expert\_3)

The latter is about demonstrating genuine and benevolent concern towards the individual:

I have noticed that by doing now and then "how is it going? is everything okay?" you listen to them because it is pleasant for me to listen and to understand to create a good climate of connection and participation. (Focus Group Participant)

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Finally, the last dimension is related to the individual comfort zone. As space and time are no anymore well-defined, and interactions happen exclusively through digital tools, people need to redefine it. We observe how virtual environments put individuals all on the same level from our findings. Such a situation contributes to creating a more inclusive environment where everyone perceives to have the right to contribute and to add values, as explained by Expert\_1:

I just find the quality of the conversation, and the inclusivity and the diversity of the views are just so much richer. (Expert\_1)

In a way, virtual environments bring a completely new definition of inclusivity, which is not based anymore on the traditional parameters (gender, nationality, . . .), but mainly on psychological aspect, as explained by a participant at the Focus Group:

It's a full range of diversity that we should take care of to include, so it's lot more benefits than normal diversity and inclusion. (Focus Group Participant)

Besides, virtual environments seem to bring out new traits of people that did not emerge in a physical one. It seems like people have their digital persona: people who are usually shy, through the chat or by interacting with the camera, can voice their perspective. This emerged clearly in the following contributions.

People that are generally shy or introverted by nature are also free to share ideas more openly online and to collaborate as well. And it's kind of the digital personas come to life, you know, and the way they would engage on Facebook or Twitter or Instagram you suddenly seeing it now in the workspace. (Expert\_4)

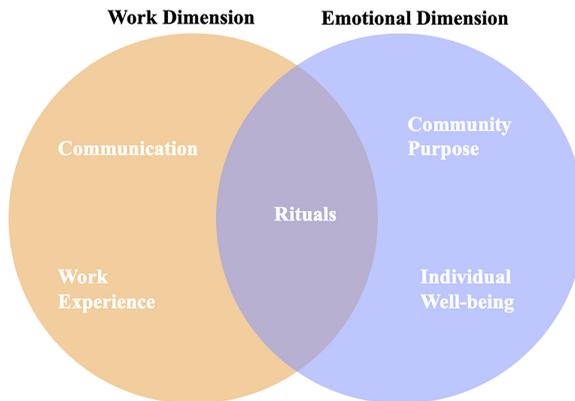
It is worth reminding us that also introverted people can speak up and present and be amazing presenters. It's the way that we define how you draw energy from standing in front of a big crowd. Or whether you draw energy from. (Focus Group Participant)

## Discussion

The present study includes a literature review and an empirical analysis. The former was needed as the literature about human behaviors and leadership practices in digital environments results scattered. The latter enabled to directly confront findings from the literature with what companies are effective doing to cope with a wholly digital environment. In what follows, we start our discussion from the empirical findings, explaining how they confirm and expand findings from the literature.

The empirical analysis let emerge five main categories which might be traced to two main dimensions: a work-related one and an emotional related one. The former includes categories of "Communication" and "Work Experience", while the latter comprehend "Community Purpose" and "Individual Well-Being". The category "Rituals" seems to play a pivotal role as a decoupling point between the two dimensions, as presented in the model in [Figure 5](#). In what follows, both dimensions are discussed concerning human relationships in a digital environment. Finally, contributions both for theory and practice are presented.

The study let both positive and controversial aspects of working in a wholly digital environment emerge. From a work perspective, it emerges clear how the virtual environment facilitates work and, in some cases, even enhanced thanks, for example, to the reduction of hierarchical and geographical barriers, the enhancement of flexibility (e.g. [Sahadna et al., 2020](#)). Besides, even communication improves as it needs to be more transparent and reliable to avoid misunderstandings and conflicts ([Vaidya et al., 2020](#)). However, it also emerged clearly how work practices result more hindered by individual choices than in a physical environment. Anyone can work from a preferred time and space, which might inevitably impact colleagues' activities.



**Figure 5.**  
Work and emotional  
dimensions of human  
relationships in a  
digital environment

On the other side, from an emotional perspective, we noticed how the digital environment pushes people to look for a personal sense of purpose and a community to contribute towards a shared direction. There is the emerging need to feel part of the same thing and experience a sense of unity in values, feelings, and emotions. Such dynamic favors human relationships. Besides, emerge crucial as never before the relevance of human well-being. The literature already focused on this aspect, highlighting how human well-being should be addressed from a holistic perspective (mental, emotional, and physical) (e.g. [Dirani et al., 2020](#)). Despite this being an aspect that refers mainly to individuals, we found how it is strictly related to interactions people have with others. Well-being is connected to the capability of leaders to act as coaches more than as managers and the existence of an inclusive and safe working environment. Thus, the role of each organizational actor as someone prone to listen and help others, even from a cognitive and emotional perspective, appears crucial to foster a safe organizational and collaborative climate (e.g. [Bierema, 2020](#)).

Between the emotional and work dimension, we see rituals as crucial elements to nurture human relations in a digital environment and avoid its drawbacks while aligning on the work dimension. On the one hand, we propose how formal rituals might support human relationships in a digital environment solving those trade-offs that hinder its effectiveness from a work perspective. Literature celebrates digital environments' flexibility (e.g. [O'Rourke, 2021](#)). However, our findings show the need to define a framework and a set of rules that make flexibility sustainable from a human perspective. For instance, having weekly meetings where people reflect on the impact of their work on other colleagues' work might help in setting mutual expectations and, at the same time to allow remote work flexibility.

On the other hand, informal rituals enhance human relationships emotionally. We found that these rituals are crucial to fostering people's confidence in sharing intimate thoughts and feelings and building human relations and cohesiveness. Therefore, they might be crucial to nurturing individual well-being and the creation of a community purpose. More precisely, for example, one-to-one meetings between an individual and her leader seem to be very effective in nurturing individuals' self-disclosure facilitated by the active listening of the leader. Besides, informal rituals are also crucial at a community level; we found how teams or group rituals enable mutual learning and confidence by knowing each other a little more.

Therefore, we propose that rituals, both formally and informally, are the decoupling point in human relationships in a digital environment, not only to facilitate them but also to enhance them and lead to more effective outcomes.

*Contribution to literature*

The present study integrates and expands literature about leadership and behavioral practices in a digital environment (e.g. Cortellazzo *et al.*, 2019). From the “work” standpoint, the study confirms previous studies for what concerns the nurturance of a communication style that has to be not only task-oriented but especially people-oriented (e.g. Sadhna *et al.*, 2020; Zhang *et al.*, 2020). Besides, the study integrates such literature providing evidence of the main drivers that enable effective communication in the digital environment, such as empathy and emotional intelligence (Newman and Ford, 2021; Thornton, 2021). Further, we found how communication to be reliable needs to be carefully managed as the lack of body language might lead to misunderstandings and conflicts (Vaidya *et al.*, 2020). In addition, the study highlights the relevance of time management on the one hand and the need for flexibility on the other. It is not only a matter of objective alignment (e.g. Lee *et al.*, 2020), but there is a concrete need to redefine metrics and rules of work practices.

From an “emotional” standpoint, literature already presented the relevance of a shared purpose to forge the community in a virtual environment (Wilson, 2020). Our study contributes to this direction showing how communities might be created even bottom-up in a digital environment, not necessarily top-down as people seek a community to belong to driven by their purpose. This aspect poses significant challenges for organizations’ purpose definition as individual perspectives and values gain more significance in a digital environment.

Finally, our study confirms that the digital environment sparks collaboration over locations by enabling global collaborative networks (Becken and Hughey, 2021). At the same time, novel insights emerge. First, our findings show how a new definition of diversity and inclusion is required. Traditional categories to define diversity (e.g. gender, nationality) appear neutralized; however, new characteristics emerge related to personal traits and personalities. Further, we discovered how digital environments represent even an opportunity since they enable people, usually shy or introverted, to start voicing their ideas bringing new life for innovation and knowledge creation. In a way, people’s digital personality emerges, contributing to value creation.

*Contribution to practice*

The study provides clear and actionable contributions for practice. We highlight how the more human side of people emerges in the digital environment. Emotions, feelings, and psychological states seem to overcome the importance of technical competencies and skills when people interact (e.g. Beauchamp *et al.*, 2021). In a way, while tacit communication can happen through nods, signals and expressions in a physical environment, this does not happen in the digital world, but all must be externalized loudly. Besides, while the physical environment enables interactions on the go, the virtual environment requires scheduling everything from work meetings to moments of emotional and personal exchange (Frisch and Greene, 2021). Consequently, organizational actors are not more only managers, whose main role is to arrange competencies, manage resources, costs, and schedulings, but real leaders. They need to dedicate time to listen to others talk about their emotional state, personal vision, and values. Besides, we showed the centrality of rituals, not only as a way to re-establish missed social connection (e.g. Watkins and Marsick, 2020) or spark a sense of community (e.g. Yeo, 2020) but as crucial moments of interactions that help people to make sense of reality and themselves. One of our interviewees pointed out how “rituals are those things that change behaviors”. We highlight how those rituals might support work practices and teams’ effectiveness by solving the trade-offs provided by digital environments, fostering people’s confidence in sharing thoughts and feelings, and forging human relationships and cohesiveness.

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**Conclusion: limitations and future studies**

This study explores how human relationships and interactions change in a wholly digital environment. The article leverages on the unique setting provided by the COVID-19 pandemic to explore how people coped with the complete digitalization, following what was already done by other studies which presented the COVID-19 environment as the perfect arena to test some theoretical hypotheses on leadership and organizational behavior (e.g. [Blake-Beard et al., 2020](#)). The study provides a framework that focuses, on the one hand, on how to cope with challenges and trade-offs posed by the digital environment; on the other hand, on how to enhance the opportunity provided. Like any study, our study is not free of limitations, even though these might become opportunities for future studies. The chance to rely on primary sources brought to the selection of a convenient and limited sample for the interviews – even if heterogenous – that cannot guarantee the generalizability of the results. Therefore, future studies might validate and expand the current results using more quantitative methodologies and even a longitudinal perspective. Besides, our interviews represent a snapshot of a continuously evolving situation. Monitoring this evolution might lead to unpredictable results.

Despite the clear limitations of this study, which is happening before the pandemic is over and the “new normal” finds its balance, we believe the insights we gather may push academics and professionals to a final reflection emerging from our model, which may bring to further research or inspire the actions of practitioners reading this piece.

If we take a step back from the research presented here and simply look at the model presented above, we should get a simple and clear message: professional and personal dimensions are overlapping, probably more than ever. It is straightforward to find reference to this ongoing phenomenon in practice-oriented literature, from the growing attention to burnout, enhanced by the pandemic ([Moss, 2021](#)) to the rising YOLO movements, which claims “You Only Live Once” that asks to bring the personal life back to the center ([Chronopoulos, 2021](#)). On the one hand, this overlapping of the two spheres led to two worrying phenomena like those. On the other, it may catalyze an ongoing transition that may nurture the future of innovative leadership: the agile approach.

If we go back to 2001, we can find a group of 17 professionals who write the “Agile Manifesto” ([Beck et al., 2001](#)), putting the basis for the agile revolution. The professionals were coming from the software development field, challenging the widespread “traditional” approach to project management known as “stage-and-gate” ([Cooper, 1990](#)). What they did with their manifesto still went far beyond project management. At first, the agile approach started diffusing in the software development and slowly convincing even professionals in more traditional fields, till the proposal of a revised version of the “stage-and-gate” embracing an agility perspective ([Cooper, 2014](#)). Then, over the years, the second soul of the manifesto emerged. Many of the principles deal with the sustainability of the way of working, with the attitude towards learning and failing in a smart way and other cultural dimensions ([Beck et al., 2001](#)). It took years, but scholars learned to recognize that agility goes far beyond a management approach but deals with a specific mindset and leadership style ([Bäcklander, 2019](#)). In other words, embracing agility also means shifting towards agility values in terms of mindset, putting value creation, team effort, people behaviors, and continuous learning at the center ([Pinton and Torres, 2020](#)). Somehow, the two dimensions highlighted in this study focused on the professional/work, and behavioral/emotional sides are evident even in the agile frameworks. If we consider, for example, the SCRUM approach, the most diffused agile framework, rituals are the transmission change of these two souls: enabling continuous stakeholders’ alignment both internally and externally ([Sutherland and Sutherland, 1995](#)). More precisely, concerning the SCRUM, this is possible through two rituals: the sprint review that focuses on the actual work done, and the team retrospective that is focused on how the team worked, letting emerge process and behavioral dynamics.

To sum this reflection up, recent reports showed how agile-oriented organizations better reacted to the challenges of the COVID-19 pandemic (Jadoul *et al.*, 2020). Moreover, this study explains the need for innovative leaders to act on the work dimension revising their approaches to communication and the work experience, and consider the emotional dimension in terms of community purpose and individual well-being while identifying rituals as an overlapping tool. The parallelism built between the results of this study and the agile world may inspire leaders to rethink their leadership and behaviors, getting closer to the agile approach. Or, at least, being inspired by this ongoing revolution that may, on the one hand, be enhanced by the rise of the pandemic; on the other, it may represent a valuable way out to rethink the human relations in our professional environment.

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Roberto is the author of “Overcrowded. Designing Meaningful Products in a World Awash with Ideas”, published by MIT Press in 2017 and of “Design-Driven Innovation: Changing the Rules of Competition by Radically Innovating what Things Mean”, published by Harvard Business Press in 2009, which has been nominated by the Academy of Management for the George R. Terry Book Award as one of the best 6 management books published in 2008 and 2009.

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