



RESEARCH ARTICLE

Management research contributions to the COVID-19: a bibliometric literature review and analysis of the contributions from the *Journal of Management & Organization*

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(Received 17 January 2021; revised 10 November 2021; accepted 19 December 2021; first published online 10 January 2022)

Abstract

The COVID-19 health crisis triggered changes in the workplace. This paper explores the insights from scholarly work published in the *Journal of Management and Organization (JMO)* and systematizes this body of knowledge to build a scientific overview that looks at how the COVID-19 health crisis and its repercussions may be managed by organizations. We conducted a bibliometric investigation of *JMO*'s most influential papers published from 1995 to June 2020 that offers insights into the management of the COVID-19 crisis. Our bibliometric investigation reveals six clusters: (1) conservation of resources theory, entrepreneurs, gender and work–family conflict; (2) corporate governance, corporate social responsibility and stakeholder salience; (3) family firms, innovation and research methods; (4) creativity, leadership and organizational change; (5) job satisfaction and psychological empowerment; and (6) team performance. We discuss the theoretical and practical implications of our findings.

Key words: Bibliometric; COVID-19; *Journal of Management and Organization*; literature review; VOSViewer

Introduction

The *Journal of Management and Organization (JMO)* publishes high-quality and broad-spectrum research with an in-depth understanding of management and organizational issues. *JMO* also focuses on critical current topics such as the COVID-19 health pandemic that has had an overwhelming impact on nations, groups, communities, organizations, individuals, and employees around the world (see Carnevale & Hatak, 2020; Chong, Huang, & Chang, 2020). COVID-19 is in the family of the novel coronavirus diseases, including severe acute respiratory syndrome (SARs-CoV-1) in 2003, Middle Eastern respiratory syndrome coronavirus (MERS-CoV) in 2012, and H7N9 in 2013. The outbreak of these viruses is problematic for governments, organizational leaders, employees, and policy makers around the world. Emerging research in this area suggests that COVID-19 has caused millions of deaths (WHO website, 2021), enormous economic strain on nations, and a shift in work–family balance (Vaziri, Casper, Wayne, & Matthews, 2020), while triggering anxiety and stress on individual employees (Hu, He, & Zhou, 2020; Trougakos, Chawla, & McCarthy, 2020). Additionally, and unlike the previous pandemics, the rapid and global spread of COVID-19 has significantly changed the way we work into the future; especially escalating organizational challenges such as hybridization of work, work–life balance, voluntary, and involuntarily working from home (WFH), working virtually/digitally, and working from the office. Many of these changes may persist into the future and continue to influence the lives of organizations and people.

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The aim of this paper is to explore insights from a systemization of scientific knowledge that we can draw upon to manage the challenges presented by the current COVID-19 health crisis. We focus on insights from scholarly debates and findings as published in the *JMO*. Our approach is to look at existing scientific insights to inform how the health crisis and its impact on organizational management may be handled, and what the future may hold for organization and management. We are aware that the codification of work (e.g., bibliometric analysis) that provides accumulated knowledge may inform organizational leaders and employees on the effective management of COVID-19-related issues. It is also expected that insights from such codification or systematization of work will be useful in developing fresh and impactful research ideas (Pizzi, Caputo, Corvino, & Venturelli, 2020) which can assist in resolving the challenges and changes brought by the current pandemic.

The bibliometric approach is different from a traditional systematic literature review that signals a critical approach to the review of literature and may often lead the researcher to construct causal links based on the evidence presented in many and varied studies – especially by mapping various variables and their inter-relationships into a coherent picture (see Linnenluecke, Marrone, & Singh, 2020). Rather, the bibliometric approach is mainly focused on mapping influential publications within a field and their inter-relationships while allowing for an assessment of the development of a thought on a given topic (Janssen, 2007). In this respect, and to fulfill our aim in this study, we adopted a comparative bibliometrics analysis (Caputo, Pizzi, Pellegrini, & Dabić, 2021), an approach described as a part of scientometrics that complements different statistical methods to the study of scientific activities in a field of research (Bartolacci, Caputo, & Soverchia, 2020; Broadus, 1987; Caputo, Marzi, Maley, & Silic, 2019; Dabić, Maley, Dana, Novak, Pellegrini, & Caputo, 2020; Zupic & Čater, 2015).

Following the methodological recommendation by Pizzi, Corbo, and Caputo (2021), we compared several bibliometric analyses, based on a database search that followed the review protocol (Thorpe, Holt, Macpherson, & Pittaway, 2005; Tranfield, Denyer, & Smart, 2003). For each bibliometric indicator, we selected articles ranked in the top 20 positions and removed duplicates to identify the list of papers to be reviewed. Altogether, we propose a bibliometric investigation covering the years from 1995 to June 2020. We explored the most influential papers published in the *JMO* that offer insights about the COVID-19 crisis and the management of organizations following it. By adopting a bibliometric analytical approach, our study aims to assist organizational researchers and practitioners to deepen their understanding of the management of COVID-19 and how past research may help to manage future health crises.

Six clusters emerged from our analysis that may assist employees, organizational leaders, managers, government, parastatals, and stakeholders in managing health crises such as COVID-19. These emerging clusters are based on the analysis of keywords, and they include conservation of resources (COR) theory; emotions, entrepreneurs, gender, work–family conflict, corporate governance, corporate social responsibility, stakeholder salience; family firms, innovation, research methods; creativity, leadership, organizational change; job satisfaction, psychological empowerment, and team performance. We believe that reviewing these clusters provides useful insights that can assist in the management of health crisis such as COVID-19 now and into the future.

Our paper extends the literature in the field of crisis management, leadership, organizational change, work–family conflict, and corporate governance by gleaning insights from these areas to inform how COVID-19 challenges may be managed effectively. The paper also furthers the use and application of comparative bibliometric analysis to scientifically review and study existing knowledge in management and organizational studies.

The paper is structured as follows. First, we explain the value of the bibliometric analytical approach. Second, we discuss our results, including emerging themes; and third, we provide a discussion, including theoretical contribution, practical implications, and future research agenda, of the findings/insights that have emanated from the 20 most relevant papers from the *JMO* in the last few years.

Methodology

Search procedure

The aim of this article is to map the knowledge generated by management and organizational researchers to provide insights into the effective management of COVID-19 pandemic and related changes in organizational settings. To achieve this aim, we employed comparative bibliometric analysis to identify the most influential articles that informed the literature review (Caputo et al., 2021). Bibliographic databases, such as the Web of Science and Scopus, are usually used to retrieve bibliographic data to analyze via bibliometrics. We began an examination of the coverage of *Journal of Management and Organization (JMO)* with a search performed on 9th June 2020. We searched both Web of Science and Scopus. We found that while the Web of Science covered the journal since 2007, Scopus traced back to 1995 when *JMO*'s first issue appeared. This search resulted in broader coverage of the journal by Scopus. From 1995 to the 9th of June 2020, *JMO* had published a total of 926 papers.

Following recent editorial calls for the impact of COVID-19 from journals involved in management and organization research (e.g., Rigotti, De Cuyper, & Sekiguchi, 2020), we developed a set of keywords to include in our search for insights into relevant articles created and published in *JMO* that would provide insights on the management of COVID-19 in virtual work, technology, WFH, and work–life balance. Our search in Scopus was done according to the following strings and keywords: ‘*work* OR virtual* OR physical OR team* OR home* OR office* OR technology* OR digital* OR crisis OR health OR work-life OR balance OR conflict OR work–family OR mental OR wellbeing*’ to be present in the title, abstract, or keywords of the articles. The search retrieved an initial sample of 462 papers. We performed some filtering to remove eight errata and one note, which did not constitute peer-reviewed papers, reducing the final sample of articles published, in press, reviews, and editorials to a total of 453 papers.

Bibliometric indicators and analysis

Bibliometrics combines two main procedures: performance analysis and science mapping (Aria & Cuccurullo, 2017). Performance analysis is based on indicators of activity in terms of volume and impact of research (Mingers & Leydesdorff, 2015). They include word frequency analysis, citation analysis, and counting publications by unit of analysis (e.g., authorship, country, affiliation, and so on). Science mapping shows the structural and dynamic organization of knowledge for the field of research (Iwami, Ojala, Watanabe, & Neittaanmäki, 2020), and it is based on first- and second-generation relation indicators that provide a spatial representation about how different scientific elements are related to one another (Caputo et al., 2019; McCain, 1990). First- and second-generation indicators may include co-citation, bibliographic coupling, and co-occurrence of keywords analysis. Due to the inherent limitations and bias of each indicator, scholars (e.g., Caputo et al., 2021) have argued for the use of more than one indicator in a comparative approach to ensure the individuation of most influential articles.

We performed co-citation, bibliographic coupling, and co-occurrence of keywords analysis. Co-citation analysis measures similarity between articles, authors, or journals, by using the frequency with which two items are both independently cited by one or more items (Dabic, González-Loureiro, & Harvey, 2015; McCain, 1990). This analysis assumes that when items are cited together, they are more likely to be related. Given the time needed for the published articles to be produced and for citations to accumulate, co-citation analysis offers a dynamic representation of a topic from the past, rather than the present or the future (Caputo et al., 2019). Bibliographic coupling analysis is indicated when two articles cite a common third article, suggesting that the probability exists that the two articles discuss a common topic (Kessler, 1963). This analysis assumes that the more the references of two articles overlap, the stronger their connection. Given that the number of cited documents in a source does not change over time,

bibliographic coupling is considered to be a static analysis, which does not suffer from a time bias (Caputo *et al.*, 2019). Co-occurrence of keywords is a form of content analysis, which uses the author's provided keywords to investigate the conceptual structure of the field (Callon, Courtial, Turner, & Bauin, 1983). This analysis postulates that when words co-occur in a document, the concepts related to those words should be closely related. By using the content of a document, this analysis is particularly powerful and appropriate to develop a semantic map that helps in understanding the conceptual structure of a field or topic (Caputo *et al.*, 2019).

We performed the bibliometric analysis using Microsoft Excel and VOSviewer, which is a free open-source software (Van Eck & Waltman, 2010). The clustering algorithm is freely available, and studies published in a series of academic journals describing exactly how VOS and its algorithms work (e.g., Van Eck & Waltman, 2014). VOSviewer is recognized as a widely accepted standard in bibliometric literature, and its results are widely accepted in the field of management and organization studies (Caputo, Marzi, Pellegrini, & Rialti, 2018; Griffin & Grote, 2020; Raghuram, Hill, Gibbs, & Maruping, 2019). The visualization of similarities (VOS) technique shows the results arising from a selected co-occurrence matrix of items, resulting from the presence, frequency, and proximity of similar pairs of terms (Boyack & Klavans, 2010). The versatility of the VOS technique and VOSviewer software allows consistency in the algorithm, and therefore comparison of results, used for the calculation of different bibliometric analyses.

According to the type of items (e.g., journals, authors, articles) under investigation, the results are a set of statistical indicators and a cluster analysis, which is based on the construction of a similarity matrix, obtained by normalizing a co-occurrence matrix of selected items (Boyack & Klavans, 2010). A two-dimensional map is then built, in which items 1 to n are positioned so that the proximity between any pair of items x and y reflects their similarities in terms of cited references (Van Eck & Waltman, 2007). In the network visualization, items are represented by a tag and a circle, whose size varies according to the importance of the element. The higher the weight of an item, the larger the circle. The distance between the two items in the visualization approximately indicates the relatedness of the items in terms of adopted metric links. The closer two items are located to each other, the stronger their relatedness. The spatial position of the circles and the different colors are used to cluster the items. For a detailed explanation of the scripts and mathematical algorithms adopted in VOSviewer, please see Van Eck and Waltman (2007, 2010).

Results

Identification of the most influential papers published in JMO

This section provides the results from the bibliometric analyses performed on the data set of 453 papers (48.9% coverage). To arrive at the identification of the most influential papers, we followed the comparative bibliometric approach (Caputo *et al.*, 2021), and triangulated three bibliometric indicators: total citations, normalized citations, and bibliographic coupling. The comparative approach was adopted because it reduces the inherent methodological biases of each bibliometric indicator, providing a rigorous and solid base for the literature review of the papers. Caputo *et al.* (2021) established how the approach is particularly appropriate for the study of dynamic and new fields of inquiry. The thematic clusters that emerged are basically done via a network analysis of the keywords in connected papers. From the keywords, we then manually allocated the most influential papers to each cluster for review, which was only based on the most influential papers selected via a comparative bibliometric analysis (simply meaning we included multiple indicators of 'influence').

The first indicator we looked at was the total number of citations received by the papers in the data set. This indicator shows the activity and impact over time of the selected publications, and understandably, older papers may have at this time, received more citations than newer ones. The most cited paper (Kalliath & Brough, 2008) received a total of 118 citations.

Second, to overcome the bias of older versus newer papers, we performed a normalization of the citations received. Normalized citations are calculated as the total citations received by a paper divided by the citations received by all papers in the year of publication of the said paper. The most influential paper according to this indicator was Zhai, Wang, and Weadon (2020), followed by Javed, Naqvi, Khan, Arjoon, and Tayyeb (2019).

Third, we performed a bibliographic coupling analysis to also consider the impact and influence of papers in terms of their embeddedness in the knowledge structure of the field, seen as a similarity relationship between papers. Through bibliographic coupling (which considers when two given papers reference a common third one), we can see if the probability exists that the two given papers treat a related subject matter. Bibliographic coupling shows the importance of papers' network via the total link strength indicator. The total link strength indicator measures the coupling strength of two given papers reflecting higher and more citations to other papers they share (e.g., see Table 1 for the most linked paper; Javed et al., 2019; Jeong & Choi, 2016). The top 20 papers from each analysis are shown and compared in Table 1.

To triangulate results from total citations, normalized citations, and bibliographic coupling, we merged the top 20 lists and eliminated the duplicates, resulting in a list of 52 unique papers that constitute the sample of the most influential papers in the topic and formed the basis for the literature review. This refined subset comprises 119 authors from 19 countries and 93 departments.

The resulting data set of 52 most influential papers was then analyzed via keyword co-occurrence analysis to identify a set of thematic clusters. Author keywords were used in this analysis. The analysis, based on 17 keywords (all those who had been cited in at least two articles in the data set), revealed the existence of six independent thematic clusters (see Figure 1 and Table 2).

The 52 most influential papers were authored by authors from 19 different countries: Australia (articles 15; citations 645), Canada (articles 4; citations 6), China (articles 4; citations 20), India (articles 2; citations 21), Italy (articles 1; citations 16), Malaysia (articles 1; citations 0), Mexico (articles 2; citations 1), the Netherlands (articles 1; citations 0), New Zealand (articles 7; citations 321), Pakistan (articles 5; citations 31), South Korea (articles 4; citations 32), Spain (articles 4; citations 60), Sweden (articles 1; citations 81), Taiwan (articles 5; citations 133), Trinidad And Tobago (articles 1; citations 9), Turkey (articles 2; citations 47), United Arab Emirates (articles 1; citations 9), United Kingdom (articles 4; citations 71), United States (articles 7; citations 162) (Figure 2).

Literature review

This section contains the results and some critical literature review of each identified thematic cluster based on the most influential papers published in *JMO*.

Cluster 1: conservation of resources theory, emotions, entrepreneurs, gender, work-family conflict

Bouckennooghe, Raja, and Abbas (2014) examined how Ukrainian male IT professionals' engagement in positive behaviors could mitigate against the negative impacts created by workplace stress and burnout, thereby enhancing organizational performance. COR theory facilitated the analysis of personal emotions of 296 staff to generate and regulate supervisor trust as a wider social and economic resource. The literature suggests that trust is a critical resource to develop, harness, and support staff in emotional self-regulation and workplace engagement. In this regard, supervisors' generation of trust may be critical to the management of the current COVID-19 pandemic.

Similarly, De Clercq and Belausteguigoitia (2020) used COR theory to determine the extent to which employees' workplace stress in a Mexican company could negatively impact organizational citizenship behaviors (OCB) which may be important in harnessing staff and activities during a crisis such as COVID-19. Their paper emphasized the impact of personal resources (e.g., work

Table 1. Comparative results from bibliometric analyses

	Papers	By total citations	Papers	By normalized citations	Papers	By total link strength
1	Kalliath & Brough (2008)	118	Zhai, Wang, & Weadon (2020)	12.50	Jeong & Choi (2016)	318
2	Galbreath (2011)	99	Javed et al. (2019)	7.44	Javed et al. (2019)	311
3	Kirkwood & Tootell (2008)	99	Galbreath (2011)	7.30	Vazquez-Bustelo & Avella (2019)	292
4	Fernando & Jackson (2006)	92	Brougham & Haar (2018)	7.10	Langerud & Jordan (2020)	288
5	Nordqvist, Hall, & Melin (2009)	81	Teece (2018)	6.01	Bodla et al. (2018)	275
6	Jordan & Lawrence (2009)	66	Pajo & McGhee (2003)	6.00	Huang, Huang, & Chang (2019)	263
7	Par-kes & Langford (2008)	62	Kalliath & Brough (2008)	5.92	Kwak & Jackson (2015)	258
8	Huang, Ding, & Kao (2009)	61	Kaye (1995)	5.71	Bouckenooghe, Raja, & Abbas (2014)	257
9	Huang (2010)	60	Kirkwood & Tootell (2008)	4.97	De Clercq & Belausteguigoitia (2020)	254
10	Ratten (2010)	47	Kantur & Arzu (2012)	4.50	Yang et al. (2016)	251
11	Jordan, Lawrence, & Troth (2006)	44	Javed, Rawwas, Khandai, Shahid, & Tayyeb (2018)	4.37	Javed, Abdullah, Zaffar, Haque, & Rubab (2019)	251
12	Kantur & Arzu (2012)	39	Remington & Pellicano (2019)	4.13	Goo, Choi, & Choi (2019)	239
13	Aramburu & Sáenz (2011)	37	Chua & Ayoko (2019)	4.13	Huang et al. (2014)	238
14	Kirkwood (2007)	37	Mishra et al. (2019)	4.13	De Clercq & Belausteguigoitia (2019)	237
15	Branch, Ramsay, & Barker (2007)	36	Nordqvist, Hall, & Melin (2009)	4.12	Sanchez-Famoso, Maseda, & Iturralde (2017)	234
16	Walters & Tacon (2010)	33	Nonino (2013)	3.75	Aydogmus et al. (2018)	234
17	Syed & Kramar (2009)	32	Huang (2010)	3.73	Schreuder, Schalk, & Batistić (2019)	234
18	Hutchinson et al., (2006)	32	Härtel & Fujimoto (2000)	3.60	Jerez-Gómez, Céspedes-Lorente, & Pérez-Valls (2019)	231
19	Haar (2006)	32	Han, Jo, & Kang (2018)	3.55	Lin & Dang (2017)	218
20	Morrison (2008)	29	Fernando & Jackson (2006)	3.51	De Clercq & Belausteguigoitia (2020)	218

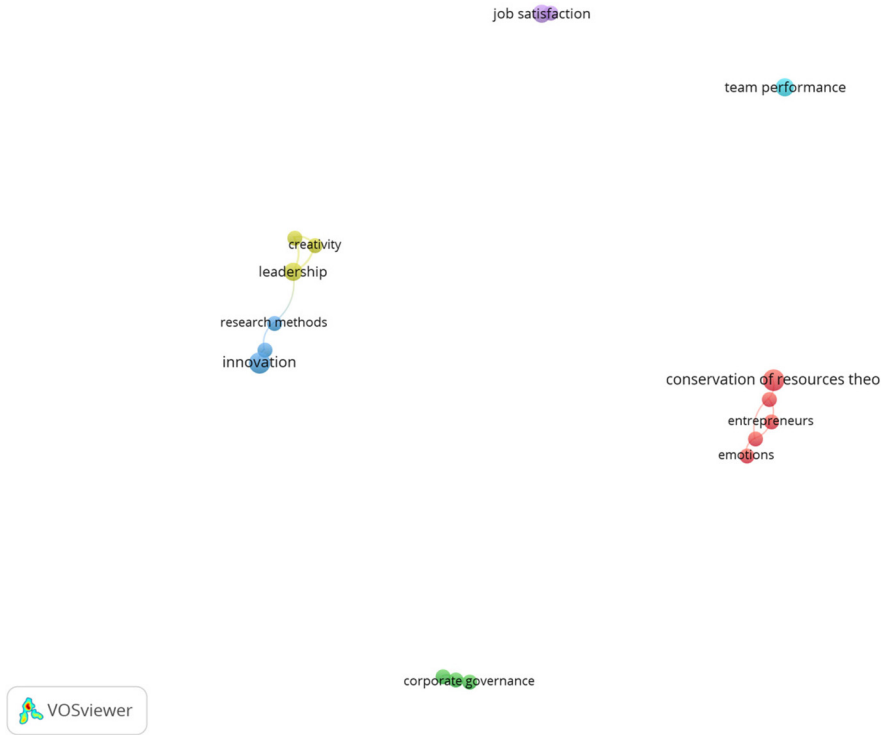


Figure 1. Visualization of thematic clusters.

Table 2. Thematic clusters

Thematic cluster	Keywords
1	Conservation of resources theory, emotions, entrepreneurs, gender, work-family conflict
2	Corporate governance, corporate social responsibility, stakeholder salience
3	Family firms, innovation, research methods
4	Creativity, leadership, organizational change
5	Job satisfaction, psychological empowerment
6	Team performance

passion, humor), and contextual resources (e.g., peer communication and a condescending environment) is negatively related to workplace stress and OCB. While the authors noted that timely access to resources was crucial in dealing with the negativity of workplace stress, they missed the opportunity to highlight the potential adverse effects of a crisis and how it could be managed.

Zhai, Wang, and Weadon (2020) also used COR theory to see the effect on Chinese white-collar employees’ support and satisfaction. They found that co-worker support was only partially related to workplace thriving and supervisor support but was an essential resource for staff’s workplace thriving and satisfaction in life. These findings may be important in addressing the challenges arising from a crisis like COVID-19. Also, the role played by personal resources (e.g., political skill, organizational belonging/identification) is highlighted, and these personal resources should be fostered in companies wishing to enhance employees’ voluntary contributions – especially where role clarification is a problematic crisis environment.

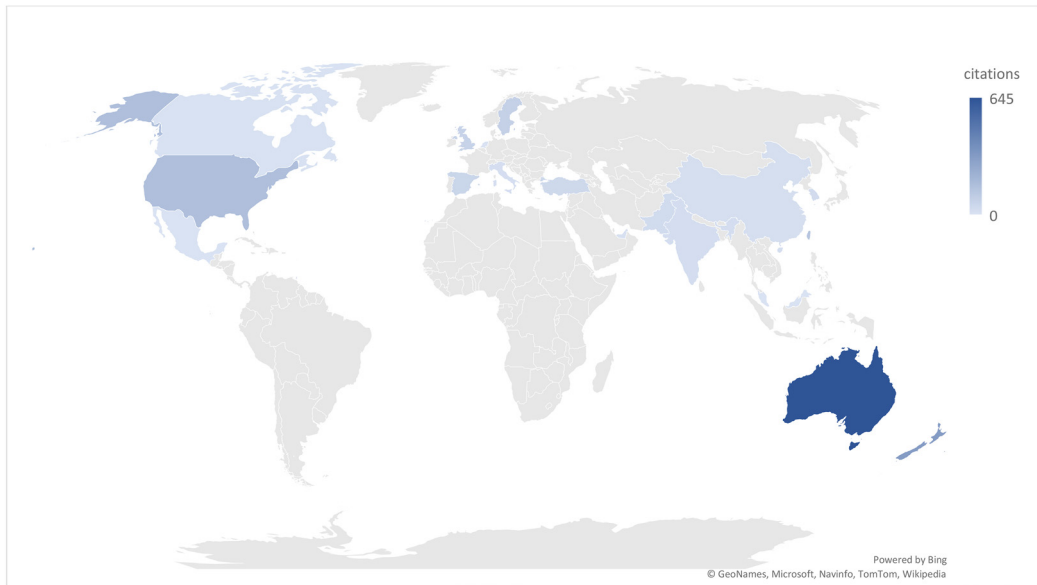


Figure 2. Geographical visualization of the impact of most influential studies.

Earlier studies by Branch, Ramsay, and Barker (2007) highlight how targeted managers in ‘upwards bullying’ could deepen our understanding of bullying at work. Qualitative data from 24 managers in the public and private sectors identify factors triggering upwards bullying within organizational change. They also report that power relations were a mechanism for upward bullying behaviors. The extent to which employees are prone to uncivil workplace behaviors and the depersonalization of colleagues is exposed in work-related anxiety in Pakistan (De Clercq & Belausteguigoitia, 2020). These authors found that such behavior was prevalent among highly educated male employees. This may be explained partly because of the potential for resource loss emanating from disrespectful treatment from and by colleagues. While such behaviors may be predominant in a crisis setting and need managerial attention, the management intervention in these issues is downplayed.

Haar (2006) collected data from 203 New Zealand government staff to investigate the link between work–family conflict and burnout and found that work–family and family–work triggered such burnout. Paradoxically, working harder and resignation exacerbate staff burnout, resulting in resource loss. To advance the notion of work–family/life balance and determine how HR can meaningfully intervene, Kalliath and Brough (2008) reviewed six theoretical types, which helped redefine the notion of work–life balance as a useful resource. From a survey of 58 New Zealand entrepreneurs comprising 32 women and 26 men, Kirkwood and Tootell (2008) also examined their work–family conflict and their strategies to enhance balance. They found that women entrepreneurs used a mix of flexibility practices, including when, where, and whom they work with as a resource-enhancing strategy. Similarly, Mishra, Bhatnagar, Gupta, and Wadsworth (2019) hypothesized that work-to-family and family-to-work enrichment positively influenced psychological capital and staff’s workplace innovation. Surveying 398 service-sector employees and through structural equation modelling, they established the importance of work-to-family and family-to-work enrichment, as well as supervisor support for positive psychological capital to develop broaden-and-build theory. We believe that these findings – especially about the potential tension between work and family conflict – may inform the effective management of COVID-19 and in future health crises.

Kirkwood (2007) highlights the relationship between Tall Poppy Syndrome (TPS) and the entrepreneurial culture of New Zealand through 40 interviews with entrepreneurs. He notes how strategies such as ‘staying under the radar,’ not exposing their ownership of companies and not ‘flaunting’ wealth had helped in the potential management of a possible ‘fall’ and resource loss. The above strategies may have a significant role in capturing the complex range of resource-related challenges caused by the COVID-19 pandemic.

Cluster 2: corporate governance, corporate social responsibility, stakeholder salience

Galbreath (2011) investigated if there was a relationship between women on Australian boards of directors and corporate sustainability (e.g., economic, environmental, and social). Based on public companies, he identifies women directors and corporate sustainability linkage. Gender diversity helps in ‘good’ governance, which, in turn, minimizes shareholder money theft and fosters economic growth. However, the paper does not explain how to improve governance processes to enhance such diversity. Despite the positive benefits, bias against women directors and stereotyping persists, leading to loss of environmental integrity. Also, Huang’s (2010) empirical exploration of CSR, financial performance (FP), corporate governance (CG), and corporate social performance (CSP) using 297 electronics companies in Taiwan highlight the importance of how a CG model positively impacts both FP and CSP when it has externally independent directors, while government shareholders positively influence organizational, social, and environmental performance.

Huang, Ding, and Kao (2009) surveyed 235 manufacturing companies in Taiwan to investigate the extent of pollution against the capacity to adopt green innovation practices. They found that family firms succumb to internal stakeholders’ pressures thereby contributing to stakeholder salience theory. However, these family firm initiatives have not addressed wider fossil fuel usage and its effects on the adoption of greener human resource management (HRM) practices in organizations and society.

Surveying New Zealand’s top 200 organizations, Pajo and McGhee (2003) observed that institutionalizing business ethics was being included in their respective firms’ operations through an ethics code. Although ethics training was not commonplace, there was a lack of reward for employees’ ethical behavior. Although the punishment of unethical practices was instituted through disciplinaries and regulations, managers revealed their likelihood of adopting informal methods. Meanwhile, the development of a framework by Syed and Kramar (2009) showed how targeting different levels of ‘socially responsible diversity management’ could help achieve social justice and affirmative action, where traditional methods have failed to contribute in the past. While the rewarding of employees’ ethical conduct was missed in this study, their framework should be useful in managing future crises.

Walters and Tacon (2010) examined how CSR in UK football organizations can help us better understand management practices by focusing on the intersection between CSR and stakeholder theory and with specific foci on organizational actions, stakeholder definition, salience, and actions. Fifteen semi-structured interviews with different firm representatives show how CSR can be practically implemented using stakeholder management strategies. Although the extent of the replicability of ethical management practices across organizations in other parts of the world was not attempted, there is a recognition that the stakeholders’ strategies may be critical in managing crisis in the future.

Cluster 3: family firms, innovation, research methods

Han, Jo, and Kang (2018) investigated the effects that knowledge (both quantitative and qualitative) could have on the performance of mergers and acquisitions (M & As) between acquired and targeted firms. A framework is proposed showing overlapped and nonoverlapped knowledge

areas to highlight performance. The analysis of data from 192 technological M & As from 2001 to 2009 identifies that when overlapped knowledge is of high quality, positive impacts on performance and innovation could be obtained from the target company. However, the aspects of un-overlapped knowledge and their potential impacts on the management of such firms are overlooked.

Similarly, Huang, Lai, Kao, and Sung (2014) investigated the importance of cross-functional teams on business performance and innovation through various forms of learning in teams. The results from 330 cross-functional teams in a range of 165 electronics companies in the electronics sector in China show that within and cross-team learning does indeed improve a company's performance and innovation capacity. While the critical contribution of team learning and knowledge building capability is considered critically important in boosting business and management performance, the contributions of management capacity toward this are omitted. Nevertheless, cross-team learning may provide an insight for managers on how to handle crisis in the future.

Nordqvist, Hall, and Melin (2009) investigated the complexity and dynamic family businesses by using interpretative methodology to complement the predominantly quantitative methods and provided ideas for scholars and others. Combining the social, international, and technological aspects, Ratten (2010) developed sports-based entrepreneurship theory, which they claim can be used by future researchers, and it provides insights for practitioners and policy planners in terms of how businesses become entrepreneurial in managing sport-focused firms. However, the development of such a proposition is yet to gain scholarly traction and attention.

Similarly, Sanchez-Famoso, Maseda, and Iturralde (2017) explored whether the involvement of family members in family firms' top management teams can enhance or reduce their innovation capacity by investigating internal social capital, which is based on a family firm's social capital (family member relationships) and nonfamily social capital (nonfamily member relationships). Using the Iberian balance sheet analysis system (or SABI) database to identify the family firms research population, they analyzed 344 managers' questionnaire responses from 172 Spanish family businesses followed by family and nonfamily member interviews in managerial and nonmanagerial capacities. Although they found that family member involvement in top management weakens nonfamily members' social capital and their ability to innovate, the management of such complex employment and family relations is minimized.

Cluster 4: creativity, leadership, organizational change

To find out how types of diversity in cross-national and international postgraduate and graduate teams influence knowledge sharing and creativity, Bodla, Tang, Jiang, and Tian (2018) examined the positive and negative impacts of inclusive environment and knowledge sharing on such teams. Testing involved 60 cross-national research teams in different Chinese universities, including 223 responses from team leaders. Although they found that surface-level diversity had a negative impact on a team's knowledge sharing capacity and creativity, investigating whether deeper levels of diversity engagement could affect the identified team creativity was omitted.

By examining how 120 employees perceive technological advancements in jobs, Brougham and Haar (2018) also developed a new method called STARA, which can be used in future management research to create awareness of staff's perceptions of organizational changes. Given the career progression and technology knowledge associated with age, they tested age as a moderator of STARA. Using a mixed-method approach, they found that the greater the STARA awareness, the lesser employees' commitment and career satisfaction were. Additionally, they found a positive association between increased STARA awareness and turnover intentions, cynicism, and depression. Their study helped in raising challenges related to career-planning and boundaryless careers. A sample of 420 surveys and 120 participants interviews found that the ≤ 30 years population registered higher STARA awareness of $M = 1.9$; whereas the over ≥ 50 year group registered

$M = 1.2$; while the 31–50 year category scored $M = 1.6$. Such a technology-orientated methodology is yet to be tested across employees' task accomplishments across the world.

Drawing on the self-determined theory of motivation, Chua and Ayoko (2019) propose a model of transformational leadership, engagement, and employee motivation. Results from 155 participants show that the employees' perception of transformational leadership was positively associated with their engagement through self-determined motivation. However, we note that their paper missed the opportunity to study how collective motivation could be developed.

Fernando and Jackson (2006) used 13 in-depth Sri Lankan business leader interviews with additional documents. The leaders' decision making was linked with workplace spirituality, and dealing with difficult management issues, the leaders' decisions were linked with doing good. Such a connection highlighted that religion was crucial in leaders' decisions and motivation.

Javed et al. (2019) chose psychological empowerment to examine the linkage between leadership and innovation in IT and cargo workplaces in the UK and Canada. Nonreligious aspects that could impact on staff's motivation were not included in the study. They found that inclusive leadership positively impacted on employees' innovative work, but there was an indirect link with psychological empowerment. Cognitive evaluation theory provided the findings analytical frame. Using trust and openness as mediators, Javed, Rawwas, Khandai, Shahid, and Tayyeb (2018) investigated the linkage between ethical leadership and employees' creative ability in small Pakistani textile companies. The results from the 205 sampled participants highlight the importance of ethical leadership in facilitating creativity and trust enhanced the role of ethical leadership in creativity.

Similarly, Jeong and Choi (2016) used data from 632 South Korea manufacturers to investigate the moderating role of HR on high-performance work systems and company performance. They found high-performance work systems to be aligned to the universalistic perspective, while HR was linked to the contingency perspective. Related to the above, and using the mediating role of organizational learning capability, Jerez-Gómez, Céspedes-Lorente, and Pérez-Valls (2019) investigated HRM practices and the organizational outcomes of 85 Spanish chemical companies. Their findings point to the fact that applying HRM practices lead to organizational learning capability, which also impacts on the company's nonfinancial and financial performance. Therefore, learning capability is crucial in ascertaining linkages between HRM practices, firm performance, strategic HRM, and the development of HR systems.

Still under the creativity, leadership, organizational change cluster, Kaye (1995) focused on myth making and storytelling's effect on human systems covert culture by highlighting aspects relating to communicative competence using the adult communication management model. For organizations to survive and become effective, Kaye proposes the understanding and proper management of covert forms of communication. This understanding is linked to managers' awareness of myths, cultures, and stories that exist internally. Kaye also argues that competent storytelling managers help employees become good communicators and learners. However, the extent to which management's facilitation of other forms of learning outside the organizational context and their impact on firm performance was not attempted.

Kantur and Arzu (2012) note the emerging importance, but disjointed nature of resilience in organizations prompting the need for an integrative framework on resilience. They propose organizational evolvability as a model, which includes various aspects such as perceptual stance, integrity, strategic capacity, and acting in their effort to boost the literature on organizational resilience. Using trait activation theory as a framework, Yang, Qian, Tang, and Zhang (2016) developed and validated a model for individual innovative behavior using 334 employees from 75 teams. Although they found that employees' propensity to learn was positively linked to their innovation provided their team was organic, their impact on resilience building capability at the individual and collective levels of management was less conspicuous.

Nonino (2013) used organizational social capital and network theories and 10 informal networks as bases for intra-organizational social capital. A model that combines relational,

structural, and cognitive domains is proposed and empirically validated for the representation and measurement of intra-organizational social capital within a knowledge-intensive firm. It was found that employee accessibility signaled the likelihood of informal relationships, which in turn formed the crux of intra-organizational social capital, cooperation, and the sharing of resources and culture.

Finally, in cluster 4, Teece (2018) explored the contribution of systems and dynamic capabilities in management studies by adopting a holistic, organizational alignment and adaptive learning. The dynamic capabilities perspective not only acknowledges the adaptive capability of organizations, but management's capacity to effect systemic change in their environment; whereas systems theory emphasizes internal stability within systems. While dynamic capabilities and systems thinking involve the use of strategic resources to shape a firm's competitive advantage, socio-cultural aspects that may contribute to capability development and environmental adaptation have been under-developed in the debates.

Cluster 5: job satisfaction, psychological empowerment

Out fifth cluster involves job satisfaction and psychological empowerment. In two studies, Aydogmus, Camgoz, Ergeneli, and Ekmekci (2018) investigated the link between transformational leadership and followers' job satisfaction with personality characteristics such as extraversion, agreeableness, conscientiousness and neuroticism, and psychological empowerment as moderators. The results from 221 research and development (R & D) employees in the information technology sector showed a link between the conscientious employee, transformational leadership, and workplace satisfaction; whereas the second study based on 348 academics showed that the more employees felt psychologically empowered, the more job satisfied they were.

Goo, Choi, and Choi (2019) tested whether perceptions of task independence and organizational politics impacted the relationship between co-workers' OCBs and work attitudes. Based on 411 employees, it was shown that co-workers' OCBs were positively linked to their satisfaction while not adversely linked to turnover intention. Co-workers' OCBs and job satisfaction were stronger in low organizational politics environments, whereas OCBs were stronger in high task interdependence contexts. However, the potential impact of highly politicized work environments could have on workers' OCB was a missed opportunity in this paper.

Kwak and Jackson (2015) examined LMX theory into the linkage between empowering leadership and empowerment using 132 administrative staff to ascertain whether an individual's LMX perception and psychological empowerment were positively impacted by empowering leadership. They found that an individual subordinate's perceived LMX mediated the positive effects of empowering leadership on the subordinate's psychological empowerment while LMX differentiation moderated the link between empowering leadership and perceived LMX. Training is indicated but the paper could have provided more on the guidelines for a specific training program in this area.

Langerud and Jordan's (2020) investigation into the linkage between entitlement perceptions and positive outcomes such as citizenship behaviors and affective commitment was argued to help deepen understanding of staff entitlement (i.e., a right or privilege) in Australian, Norwegian, British, American, and other contexts, with 167 respondents of varying ages. While they found that employee entitlement was positively linked to OCB, and reward and self-focus were linked to affective commitment, their study missed the examination of such crucial aspects in non-Western contexts.

Morrison (2008) examined the negativity of workplace relationships and organizational outcomes in different occupations and sectors using a questionnaire. Staff with negative relationships were not only less satisfied, but also less committed and more prone to leave. Finally, in cluster 5, Parkes and Langford (2008) collected data from an Australian sample of over 16,000 employees to examine employees' satisfaction with their work-life balance. They found 28 organizational climate factors that could account for employee engagement, work-life balance, and intention to stay.

Cluster 6: team performance

Jordan and Lawrence (2009) proposed and tested a model to determine emotional intelligence in teams using 16 items. Based on two samples of 620 and 217 employees, four areas such as awareness, management of others' and one's own emotions were crucial for team membership interaction. Huang, Huang, and Chang (2019) examined different leaders' roles and team members' goal orientation in 64 teams using 268 respondents. They found a positive link between team members' learning and their performance, while missing the impact this could have on the management of overall team performance. They also ascertained that the combined leader and member performance orientation was negatively linked to team efficacy, and that a leader's and members' learning goal orientation was also negatively associated with team performance. Jordan, Lawrence, and Troth (2006) investigated whether negative mood was harmful to team performance and processes by looking into issues such as workload, social cohesion, and conflict of 241 participants over an 8-week period. Although there were mixed results, a negative mood was detrimental to team performance.

Lin and Dang (2017) used a combination of strategic planning and change literature to empirically examine the moderating roles of organizational/environmental dynamism to ascertain what the top management team's qualities are for strategic performance and consistency in 439 electronics companies in the Taiwan's stock market. They found that slack and the heterogeneity of the top management team, among others, impacted on strategic performance and consistency. Vazquez-Bustelo and Avella (2019) used various Spanish manufacturers to investigate whether decentralization, information, and knowledge sharing, teamworking, performance-based pay, and job enlargement, as well as other contextual factors enhanced their operational and financial performance. Some effects on firm performance were found from each of the selected categories, thereby pointing to the need for organizations to adopt a combined contingency and universalistic approach to improve overall performance. By investigating the levels of openness in different staff, Härtel and Fujimoto (2000) developed a diversity-enhancement model, which they think would be beneficial in increasing firms' outcomes and the ability for management to manage diversity. However, the encouragement of slack and diversity alone could not be used to ascertain the extent to which managers may address fundamental knowledge and performance management issues.

Using 26 nurse interviews, Hutchinson, Vickers, Jackson, and Wilkes (2006) found that an organization's informal networks were used as a vehicle for group bullying behaviors. Alliances were used not only to co-opt organizational systems legally, but to use them to shield predatory and bullying practices. By adopting a longitudinal approach with multiple informants, Remington and Pellicano (2019) examined (skilled) autistic graduates' internship at Deutsche Bank, UK. The semi-structured interview method helped to highlight the positive benefits of networks while the impact of a similar program on unskilled autistic people could also have been developed. Schreuder et al. (2019) investigated the impacts of goal congruence on team outcomes using psychological contract and person-environment fit theories, respectively. By proposing the mediating role of psychological contract fulfilment (PCF) on how to identify a team and assign tasks, he highlighted the alignment between PCF and team performance as well as team identification and learning goal congruence.

Discussion and future directions

In this section, we discuss the results of the bibliometric analyses and literature review, especially along the lines of managing virtual work, work-family conflict, technology, workspaces, and employee wellbeing, which are all critical to managing a pandemic such as COVID-19. As previously discussed, our aim is not to do a critical review of literature, but to codify and systematically organize the influential papers published in *JMO* and how they might contribute to the

management of COVID-19 crisis and organizational change. We know that causality in nonexperimental research may potentially be difficult to prove, especially given the assumption that there is an absence of confounding effects from outside variables and errors of measurement (Blalock, 1961; Lucas and McMichael, 2005). In this regard, it is important to note that our bibliographic review is not an attempt to draw a causal link between the contributions of *JMO* to the effective management of virtual work, work–family conflict, technology, workspaces, and employee wellbeing. Rather, it aims to draw lessons learnt from the previous work published in *JMO* to inform how a crisis such as the COVID-19 pandemic may be effectively managed in the moment and beyond. Our results and the research agenda that follows our discussion should provide a springboard for future research investigating the management and leadership of COVID-19-related issues in organizations.

Theoretical contributions

By reviewing the most cited papers in each cluster, our aim was to summarize the main implications to better systematize existing knowledge to stimulate and contribute to the debate on the impact and consequences of the COVID-19 crisis and the lasting changes it has brought for management and organization studies. The evidence collected through our bibliometric analysis and literature review has revealed useful studies that provide insights into how the COVID-19-related organizational challenges may be managed. Our review and analysis of influential papers in the *JMO* culminated in six research themes that should provide useful contributions to the management of COVID and related research now and in the future. These themes are theoretically divided into the following research areas:

- (1) COR theory, emotional exhaustion entrepreneurs, gender, and work–family conflict
- (2) corporate governance, corporate social responsibility, and stakeholder salience
- (3) family firms, innovation, and research methods
- (4) creativity, leadership, and organizational change
- (5) job satisfaction and psychological empowerment
- (6) team performance.

Below, we discuss our findings by locating them in the literature. We offer suggestions from our findings on how organizational leaders, managers, and scholars may address the challenges presented by the COVID-19 pandemic and future health crises. Additionally, and based on our findings, we develop a research agenda (see Table 3).

With respect to conservation theory, resource loss, and COVID-19 crisis management, we note that COR theory is critical in understanding employee stress and explain why and how employees lose resources and gain new resources (see Hobfoll, 1989). Resources are ‘anything perceived by the individual to help attain his/her goal’ (Hobfoll, 1989: 5) and may pertain to energies and emotions (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014) and their fluctuations. The pandemic has disrupted employees’ task routines and impacted on emotional exhaustion and loss of personal resources, as many employees have worked from home (rather than in their offices) and depended on technology to conduct their tasks and responsibilities instead of their usual face-to-face interactions.

Research into the impact of COVID-19 is emerging and has shown that COVID-19 has affected employees’ mental health and psychological wellbeing (see Hu, He, & Zhou, 2020; Trougakos, Chawla, & McCarthy, 2020). A similar impact can be speculated for employees upon their returning to face-to-face interactions at work. Our findings from the bibliometric analysis suggest that COR theory would be a useful theoretical anchor for future COVID-19-related studies. Wanberg, Csillag, Douglass, Zhou, and Pollard (2020) have employed COR theory to show that 1143 adults from RAND corporation’s nationally representative American Life Panel

have evidenced the experience of depressive symptoms during the pandemic that were higher than the population norms before the pandemic, and that these symptoms increased in individuals with higher education. Outcomes of studies using COR should be useful in how leaders and managers manage depleted resources that may, in turn, be the key driver of depressive symptoms in the COVID-19 crisis context. By drawing the link between COR theory, personal resources, and COVID-19, we extend the work on COR theory and show its usefulness in studying health-related crisis.

The COVID-19 pandemic has accelerated the implementation of full-time telework in a bid to prevent the transmission of the virus and the subsequent lockdown in various countries. The unique and unforeseen situation presented by the pandemic disrupted daily tasks and distracted employees from their routine work that required them to respond adaptively and effortfully. Scarce research has documented how telework employees react to such complex COVID-19-related demands and regulate their work behaviors while WFH, except for the work of Chong et al. (2020). Chong et al., using COR theory and experience sampling method, show, in their multi-level data, that daily COVID-19 setbacks are stressors that triggered resource loss, which were then related to employee end-of-day emotional exhaustion. The above studies show that stress, emotional exhaustion, and poor employee wellbeing are on the increase during the pandemic.

We also found that resource loss was linked with bullying-related anxiety and stress. Emerging research already suggests that the COVID-19 pandemic is triggering employee anxiety and stress (Debowska, Horeczy, Boduszek, & Dolinski, 2020). Similarly, working online may trigger online bullying because workers are likely to hide behind their computers and attack other workers' 'face' when interacting online (Barlett, Rinker, & Roth, 2021). Our analysis reveals that personal resources such as work passion and humor, and contextual resources such as peer communication and a condescending environment were impacted by workplace stress, lowering OCB (see De Clercq & Belausteguigoitia, 2020). Similarly, timely access to resources was also found to be crucial in dealing with the negativity of workplace stress (Zhai, Wang, & Weadon, 2020). We draw insights from our study that show employees' engagement in positive behavior could help alleviate stress and burnout (Bouckennooghe, Raja, & Abbas, 2014), thereby extending literature on positive employee behavior and the management of COVID-related stress and anxiety. Our findings from the review of the influential papers in the *JMO* (see Cluster 1) corroborate the above research by demonstrating the appropriateness of COR theory in studying employees' stress pre-COVID-19 and post-COVID-19 contexts.

Our analysis also provides insights into the relationship between work–family balance/conflict and the management of COVID-19. For example, we found that work–family and family–work enrichment were critical resources for psychological capital (Mishra et al., 2019) which, in turn, minimizes stress. Recent studies show that the COVID-19 pandemic elicited a loss of boundaries between work and home (Fisher et al., 2020) and concerns about their health, as well as that of their family (Prime, Wade, & Browne, 2020). A fresh study that examined transitions in employees' work–family interfaces from before the COVID-19 pandemic to after its onset (Vaziri et al., 2020) found that many employees were more likely to go through negative transitions (i.e., from beneficial to active/passive) if they had high segmentation preferences, engaged in emotion-focused coping, experienced higher technostress, and had less compassionate supervisors. These negative transitions were also linked with negative employee consequences during the pandemic such as poor job satisfaction and job performance, and higher turnover intent. Overall, our findings suggest that work–family enrichment might be able to resolve the challenges related to home–life balance/conflict presented by the COVID-19 pandemic, and thereby extending the literature on the pandemic and health crises of the future.

We are aware that the COVID-19 pandemic has threatened firms' survival and has especially exerted significant pressure on nations' economies (Jebran & Chen, 2021; Kucketz et al., 2020). This has implications for corporate governance and corporate social responsibilities (Jebran & Chen, 2021). Indeed, corporate governance plays a vital role in regulating the actions of boards.

Table 3. Future research agenda

Cluster	Pre-COVID-19 topic area	Post-COVID-19 future research area	Possible future research themes
Cluster 1	Conservation of resources theory, entrepreneurs, gender, and work-family conflict	Conservation of resources theory, emotional exhaustion, work-family conflict and COVID-19, work-to-family and family-to-work enrichment, resource challenges	<ul style="list-style-type: none"> • Pandemic impact on routines and processes • Pandemic impact on employees' emotional exhaustion and loss of personal resources • Collaboration and resource access in post pandemic setting • Entrepreneurs' resilience, mental health, and wellbeing post pandemic • Employees' coping strategies for stress during post pandemic • Comparison between employees' interactional patterns with team members pre, during and post crisis • Gender and health crisis: Are women more impacted? • Managing work-family conflict to enhance employees' work enrichment • Effective management of pandemic situations through work-to-family and family-to-work enrichment • Management of resource 'loss' to effectively manage pandemic type resource challenges
Cluster 2	Corporate governance, corporate social responsibility, and stakeholder salience	Corporate governance, corporate social responsibility, and stakeholder salience and COVID-19, stakeholder theory and diversity in post pandemic world	<ul style="list-style-type: none"> • Pandemic impact on corporate governance's diversity • CSR post COVID-19 • Responsible management in post pandemic setting • Improvement of governance processes • Managing in a post COVID-19 diversity environment • How family firms could withstand internal stakeholders' pressures • The adoption of greener forms of HRM practices that include stakeholder families • Stakeholder theory and the replication of responsible management across diverse firms • The impact of nongovernment stakeholders on the management of corporate social performance • Implementing CSR through stakeholder management practices • Using stakeholder strategies to manage future pandemics
Cluster 3	Family firms, innovation, and research methods	Family firms, entrepreneurs, innovation, and COVID-19; socio-emotional capital theory, entrepreneurial behavior, and decision making in post pandemic world	<ul style="list-style-type: none"> • Family vs. nonfamily firm's resilience to COVID-19 • Family firms' policies and employee support during COVID-19 • Innovation and R&D in post pandemic setting • Role of technology for work hybridization, innovation, and creativity post pandemic • Role of un-overlapped forms of knowledge on how to manage family firms • Management capacity in developing team learning and knowledge building in family businesses

<ul style="list-style-type: none"> • Using cross-team learning to manage family firms within a pandemic situation • Sports-based entrepreneurship theory to investigate management practices in post COVID-19 • Using sports-based entrepreneurship to improve management policy designs and implementation 	<p>Leadership, creativity, and organizational change and COVID-19, cognitive evaluation theory, resilience, and systems theory</p> <ul style="list-style-type: none"> • Pandemic impact on team's knowledge sharing capacity and creativity • Pandemic impact on motivation and engagement • Technology and new forms of workplace • Leadership, decision making, and spirituality in post pandemic setting • Using cognitive evaluation theory to evaluate whether there is a direct link between inclusive leadership and employees' psychological empowerment • Using cognitive theory to research ethical and creative leadership and the management of employees' distrust of management • Management's facilitation of cognitive capability and linkages to organizational performance • Employees' innovative capacity and linkages with individual and collective resilience • Management's facilitation of employees' adaptability with firm-environmental adaptation • Using trait activation theory to investigate the impact of learning on employee and team resilience • Using trait activation theory to research employees' learning and resilience capability outside teams • Using social capital and network theories to study formal organizational networks • Using social capital to empirically validate inter-organizational knowledge building and resource sharing • Managing unstable environments using systems theory • Managing employees' capability development using systems theory
<p>Cluster 4 Creativity, leadership, and organizational change</p>	<p>Employee performance, teamwork, psychological empowerment, and COVID-19</p> <ul style="list-style-type: none"> • Cultural and emotional intelligence in post pandemic setting • Virtual collaborations and employee's empowerment and satisfaction • Empowering leadership style and employees' psychological empowerment • Empowering leadership and employees' job satisfaction • Empowering leadership and the management of employees' work-life balance • Empowering leadership and the management of employee turnover • Empowering leadership and the management of employees' affective commitment to organizations
<p>Cluster 5 Job satisfaction and psychological empowerment</p>	<p>Employee performance, teamwork, psychological empowerment, and COVID-19</p>

(Continued)

Table 3. (Continued.)

Cluster	Pre-COVID-19 topic area	Post-COVID-19 future research area	Possible future research themes
Cluster 6	Team performance	Telework, technology, work-life balance and COVID-19, organizational citizenship theory and post pandemic workplaces, virtuality in teams and organizations	<ul style="list-style-type: none"> • Pandemic impact on teams • Virtuality and performance • Person-environment fit theory and management's use of organizational citizenship behavior to ascertain such alignment • Person-environment fit theory and the management of individual employee performance • Person-environment fit theory and management's ability to identify and manage individual employees' learning goal alignment • Management's capability in the ethical management of both individual and team performance

For instance, researchers (e.g., Dowell, Shackell, & Stuart, 2011) argue that the control components of governance include both internal (board members) and external (shareholders) monitoring, and that corporate governance and social responsibility are critical for performance, growth, and the survival of organizations (Gartenberg & Pierce, 2017). With respect to corporate governance, our bibliometric analysis reveals that surface-level diversity had a negative impact on team knowledge-sharing capacity and creativity (Bodla et al., 2018). We also found that gender diversity is linked with good governance and has the potential to minimize shareholder theft and foster economic growth (Galbreath, 2011). Additionally, Syed and Kramar (2009) demonstrate that targeting different levels of ‘socially responsible diversity management’ (p. 639) could leverage social justice and affirmative action, where traditional methods have failed to contribute. These strategies are important for managing the threats to firms’ survival related to the COVID-19 pandemic and its aftermath. Altogether, board diversity is crucial for discussing diverse points of view necessary for the resolution of complex strategic problems that may be presented by COVID-19.

We are aware that top management teams’ ability to react with complex strategies is necessary to respond to the present uncertain environment (Ferrier, 2001; Hambrick, Cho, & Chen, 1996) such as crises. The insight from our analysis therefore contributes to the management of COVID-19 through corporate governance, and especially diversity management. We found that quality and overlapping knowledge in mergers and acquisitions have a positive impact on firms’ performance and innovation. Also, family members’ involvement in top management weakens nonfamily members’ social capital and their ability to innovate in a large family firm (Sanchez-Famoso, Maseda, & Iturralde, 2017). These findings have important ramifications for organizations working through the COVID-19 pandemic and its aftermath in family and entrepreneurial firms. Recently, researchers (e.g., De Massis & Rondi, 2020) have argued that the social restrictions imposed by the COVID-19 pandemic have induced changes in work routines, forcing organizations to ensure social distancing, virtual interactions, and the adoption of remote work habits. This approach diminishes trusting relationships that are the bedrock of family and organizational social capital which are critical to the survival of family businesses. De Massis and Rondi (2020) raise several questions about succession plans, sales of and closure of business in the new normal, goals and motivations of secession, and trust in family business post COVID-19. While the authors provide a commentary on these questions, the insights drawn from our research suggest that building trust in family businesses and the knowledge in mergers and acquisitions may be critical in promoting innovation for organizations in the post COVID-19 era. In this respect, we contribute to the literature on COVID-19 and future health crises.

Our analysis showed that leadership will be crucial in managing COVID-19 moving forward. Our influential papers showed that employees’ perception of transformational leadership had a positive impact on their self-determined motivation and engagement (Chua & Ayoko, 2019); the leaders’ decision making was linked with workplace spirituality (Fernando & Jackson, 2006); and inclusive leadership positively impacted on employees’ innovative work. However, there was an indirect link with psychological empowerment (Javed et al., 2019). Antonakis (2020) argues that the defeat of COVID-19 will not simply happen through the efforts of scientists working on new vaccines and interventions; rather, and beyond medicine, leaders have a principal role to play in winning the battle over COVID-19. Antonakis argues that leaders oversee resources and important policy makers that leverage strategic choices, which can have a long and lasting impact on the social system (see also Abrams, Lalot, & Hogg, 2021). We are also aware that charisma is a core aspect of transformational leadership, which is critical in time of crisis such as the current pandemic (Halverson, Murphy, & Riggio, 2004). Our finding that transformational leadership positively impacts employees’ motivation and engagement suggests that it will be important for managing and ensuring that followers engage in what scientists propose as steps that can help us to overcome and curtail the spread of the virus (e.g., social distancing, designing the workspaces to conform to the social distancing rules), while helping with the uptake of the vaccine for employees.

In terms of our finding that linked leaders' decision making with spirituality, Chua and Ayoko (2019) show that outcomes of spiritual leadership include personal growth, followers' growth, and organizational growth. Our findings suggest that decision making may be an outcome of leaders' spirituality in the workplace. Altogether, our findings contribute to the management of COVID-19 crisis, suggesting that transformational, inclusive, and spiritual leadership may play a critical role in managing the impact of COVID-19 on followers, and especially on how they engage the necessary scientific advice to combat the virus.

Given the increasing momentum of WFH and away from traditional offices, the question that arises is how will human resource practitioners and managers monitor and measure employees' performance in the WFH setting where work is flexible, mobile, and ultimately fluid? Ayoko and Ashkanasy (2020) argue that organizations adopt open plan offices or 'agile offices,' on the assumption that technology is the key driver of work patterns. In this regard, technological platforms are a critical vehicle for workers to do their tasks from anywhere. The COVID-19 pandemic has enabled flexibility and dynamism of WFH, which is an important resource in attracting and retaining valuable employees (Earle, 2003). The pandemic has altered traditional HR practices. HRM faces challenges such as disproportionate work–family effects (Carnevale & Hatak, 2020), technology, and the use of artificial intelligence (Ayoko & Ashkanasy, 2020) in enabling work outside the office environment. The influential articles in the *JMO* provide some strategies that are useful in managing employees in a pandemic. Articles that emerged in our cluster 4 suggest that applying HR practices are associated with organizational learning capability (Jerez-Gómez, Céspedes-Lorente, & Pérez-Valls, 2019) which, in turn, are linked with firms' performance, strategic HRM, and the development of HR systems. Organizational learning will be critical if employees are to be able to employ technology as a key driver for WFH, to maintain work–life balance and partner with artificial intelligence.

Finally, teamwork has been disrupted during the COVID-19 lockdowns (see Wildman, Nguyen, Duong, & Warren, 2021). In particular, the challenge is to make sure that teams continue to function to maintain productivity. Also, both task and informal collaborations and employees are still expected to stay connected in times during and post COVID-19 to ensure the goals of the organizations. Our influential articles show that psychologically empowered employees also experience job satisfaction. Similarly, employees with negative relationship were less satisfied, less committed and more likely to leave the organization. In terms of performance, we found that emotional intelligence is key for team membership and interactions (Jordan & Lawrence, 2009), while a negative mood was detrimental to team performance (Jordan, Lawrence, & Troth, 2006). Goal orientation was also linked with team learning and performance (Huang, Huang, & Chang, 2019). By looking at the insights from teamwork and team performance for managing the crisis of COVID-19, we can now access the lessons that maybe useful in studying the impact of the pandemic on organizational teams.

Practical implications

Our bibliometric analysis and findings have implications for organizational leaders, managers, and entrepreneurs, as well as governments. For example, leaders and managers who are responsible for managing health crises need to be cognizant of the possibility of employees' stress and emotional exhaustion which may emanate from uncertainty as presented by the crisis itself. In this respect, managers need to communicate more frequently with employees to minimize uncertainties and related stress. Managers and leaders who are interested in teams that are collaborative and functional for team performance to alleviate the challenges of the COVID-19 pandemic may need to promote increased emotional intelligence, create positive mood and encourage goal orientation. Managers should also provide free employee assistant programs for employees who may need counseling, given their concerns about their personal wellbeing and work performance during the crisis.

Entrepreneurs and their workers are not immune from emotional exhaustion and stress during a crisis like COVID-19. Entrepreneurial organizations that are impacted by COVID-19 should heed the advice such as staying under the radar and not exposing ownership of their companies and not flaunting their wealth as strategies to minimize resource loss. These strategies should be helpful for managers and owners of ventures and entrepreneur organizations in managing the impact of COVID-19-related stress. Also, entrepreneurs should seek counseling for themselves and for their staff members to reduce stress.

The results of our study also have implications for governance and social responsibility as the crisis presents a complex dilemma on balancing social, economic, and social goals. Our research suggests that gender diversity is linked with good governance and has the potential to minimize shareholder theft and foster economic growth. Corporate leaders should focus on the management of diversity – especially as a health crisis is likely to have different effects on men and women employees. Training in managing diversity in time of crisis may be critical for managers and entrepreneurs who are vested with responsibilities to manage in times of crisis.

The current study found that leadership is critical for crisis management. For example, our review suggests that the charisma dimension of transformational leadership is important for leading in a time of crisis. Leaders need to be aware of the need to motivate, engage employees, promote OCB, and be inclusive in a time of crisis – especially when most employees are WFH and may not be physically present in the office. Leaders need to be technologically savvy so that they can motivate and connect their employees virtually to promote individual and team performance in a crisis and beyond. Skills in working virtually will be important for leaders because hybridization of work will multiply because of the crisis.

Limitations, future research directions and concluding remarks

This study aimed to explore insights that can be drawn from a systemization of scientific knowledge to manage the current COVID-19 health crisis. Despite the adoption of an innovative and rigorous bibliometric and literature review approach, the comparative approach (Caputo et al., 2021), some limitations remain in this study. One limitation which was directly derived from the study aim lies in the focus on a single journal, which may limit the validity of the results and may not represent the broader contribution of the field of management and organization. However, the study succeeds in simplifying a complex and multidisciplinary body of knowledge to present it more succinctly and systematically. In doing so, similarly to every bibliometric and review study, some information is discarded to allow for a graphical and cluster representation of data. An inherent trade-off exists between the need to provide a wider panoramic view of the knowledge contributions while paying attention to the most relevant in-depth analysis of the content. This can, therefore, be considered a rigorous map of the *JMO's* contribution, acting as a springboard for future scholars who wish to tackle the many research questions that remain open.

Future research directions: an agenda

With regards to the theme of the COR theory, future research should continue to use this theory as an anchor to study how the COVID-19 pandemic, or any crisis, may impact employees' (especially the older generation) mental health and family relationships, job security interactions (e.g., bullying/conflict and abusive supervision/relationship) and their intention to stay in organizations. Using COR theory, researchers may also explore employees' stress coping strategies during the pandemic and draw comparison between their interactional patterns with team members pre, during, and post crisis. Studies may also replicate emotional exhaustion in entrepreneurial organizations and business ventures.

More work is still needed in gender and work–family conflict. Are women more impacted when there is a health crisis? How do employees engage in work–family conflict during a crisis

such as the COVID-19 pandemic? Future research should explore these issues. Answers to these questions will enrich the crisis literature moving forward.

Future research in corporate governance, corporate social responsibility, and stakeholder salience should also continue to examine how corporate governance differs during and before or after a health crisis. Similarly, corporate social responsibility is expected to increase during a health crisis. Likewise, the pandemic may halt sustainable transitions due to lack of resources. Future research should be conducted to confirm or refute this expectation from a wide variety of organizations.

Another stream of future research should explore the role of technology for innovation – especially in family firms in the face of a health crisis. More is still needed in the role of leaders and managers in promoting business continuity during a health crisis. Future research should document the processes by which leaders and managers engender employee creativity in the context of a health crisis and related organizational change. Finally, job satisfaction and psychological empowerment as well as team performance need to be continually explored. Such future studies should explore ways in which managers can continue to promote job satisfaction, empowerment, and performance when there is a health crisis. We provide more details on specific future topics that can be studied based on the current study (see Table 3).

We have highlighted the insights from scholarly debates by management and organizational researchers as published in the *JMO*. The insights from influential articles in the *JMO* provide guidelines and lessons useful for managers, organizational leaders, and practitioners in managing the current challenges presented by COVID-19 pandemic. Below, we suggest the next generation of research questions that should be important in managing the effects of the COVID-19 pandemic effectively.

One of the challenges presented by pandemic is the accelerated pace by which employees are WFH, rather than the office. Future studies might examine these questions: How has an increase in WFH options in response to the global pandemic changed the traditional work environment? What does this change mean in the long term? That is, is this the death of the traditional ‘office’ as we know it? How will an increased WFH culture affect interpersonal processes of collaboration, conflict, and knowledge sharing in teams?

COVID-19 has changed the face of employee interactions, and how HR will be able to monitor employees who are WFH is critical. Research into how HR practitioners and managers will monitor and measure employees’ performance in the WFH setting where work is flexible, mobile, and ultimately fluid is now warranted.

Leading during and post-COVID-19 lockdown has been and will continue to be very different. Leading the return to a hybrid workplace will be challenging after a long time of reduced physical social interactions. The next generation of research should examine how leaders and types of leadership styles (see Low & Ayoko, 2020) have survived the pandemic and its related challenges. Leaders will need to pay attention to the physical and virtual workspaces powered by technology. Is there a possibility that staff WFH will reduce the impact of noise, lack of privacy, distractions, and surveillances, commonly associated with open plan offices? Future research should investigate the intersections between leadership, WFH, virtually, technology, and physical environment of work for effective management of COVID-19.

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Cite this article: Ayoko OB, Caputo A, Mendy J (2021). Management research contributions to the COVID-19: a bibliometric literature review and analysis of the contributions from the *Journal of Management & Organization*. *Journal of Management & Organization* 27, 1183–1209. <https://doi.org/10.1017/jmo.2021.70>