



# Trends in the Management Accounting Research: A Review of the Literature Published during the COVID-19 Pandemic

Márcia R.C. Santos<sup>1</sup> 

Rui Dias<sup>2</sup> 

Paulo Alexandre<sup>3</sup> 

Paula Heliodoro<sup>4</sup> 

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**Abstract:** *Management accounting theory aims to contribute to managers using accounting reports for supporting their management decisions. During the COVID-19 pandemic, such insights would be essential for supporting decisions during lockdowns and other policy makers' rules imposed by this health crisis. To unveil how academic literature addresses management accounting challenges arising from the COVID-19 specific context, this study conducts an automated computer analysis of the bibliometric data addressing financial issues related to the COVID-19 pandemic.*

## 1. INTRODUCTION

Management accounting literature and practice have an extensive history (Kaplan, 1984). Some domains include: strategy, planning, performance, reporting and control, technology and analytics. The ecological concerns brought new trends in management accounting, like environmental management accounting and sustainability management accounting domains (Jasch & Stasiškienė, 2005).

New challenges arise with the COVID-19 pandemic that is a time of uncertainty for people and companies. Scholar community may have an important role in supporting people and companies in overcoming challenges, namely in the decision making on topics such as business planning, continuity, and resilience. In this sense, it is expected to see scientific peer-review publications in management accounting addressing COVID-19 pandemic problems, both in profit and nonprofit sectors (Santos & Laureano, 2021).

The massive number of scientific publications in the management accounting field made scholars, in the past, analyse hundreds of documents using computer-assisted techniques (Hesford et al., 2006). In order to contribute to the bibliometric overview of the scientific contributions already published in this field, the present study conducts a literature review of the literature. The themes addressed are systematized through a clustering technique and examples of studies are provided. This mapping of the knowledge supports scholars in identifying future research agendas.

<sup>1</sup> ESCE, Instituto Politécnico de Setúbal, Portugal and Information Sciences and Technologies and Architecture Research Center (ISTAR-IUL) at Instituto Universitário de Lisboa (ISCTE-IUL), Portugal

<sup>2</sup> ESCE, Instituto Politécnico de Setúbal, Portugal and CEFAGE-UE, IIFA, University of Évora, Portugal

<sup>3</sup> ESCE, Instituto Politécnico de Setúbal, Portugal and CICE, Polytechnic Institute of Setúbal, Portugal

<sup>4</sup> ESCE, Instituto Politécnico de Setúbal, Portugal, and CICE, Polytechnic Institute of Setúbal, Portugal

## 2. LITERATURE REVIEW

The field of management accounting is characterized by multiple research methods, in which scholars support results and discussion in multidisciplinary theories (Wanderley & Cullen, 2013).

The massive volume of data used by this management accounting practice made it benefit from the advancements in the information technology (IT) area. The use of IT played an important role in accounting change, namely in the convergence with financial accounting (Taipaleenmäki & Ikäheimo, 2013).

During this period management accounting innovations (Haiza & Hoque, 2010) and sustainability (Jasch & Stasiškienė, 2005) became topics addressed by research.

Management accountants faced new challenges as a consequence of political measures imposed during the COVID-19 pandemic, namely the digitalization of procedures traditionally paper-based or remotely sharing data within organization. Management accounting is also called to assist organizations in assessing new costs arising from health care procedures or working from home policies (M. R. C. Santos et al., 2021).

In order to understand how researchers are supporting management accountants and the discipline to respond to these challenges, a literature review on the scientific production published until now is needed.

## 3. METHODOLOGY

Aiming to analyse the scientific literature covering management accounting themes in the context of the COVID-19 pandemic, a search on the Scopus database was conducted to identify peer-reviewed scientific publications.

This method of data collection was applied in previous studies (Santos et al., 2020), and it allowed to extract of 25 articles by applying the following search query:

(TITLE-ABS-KEY ( “2019-nCoV” OR “COVID-19” OR “Coronavirus Disease 2019” OR “Novel Coronavirus Pneumonia” OR “NCP” OR “2019 novel coronavirus” OR “SARS-CoV-2” OR “2019 Novel Coronavirus Diseases” OR “novel coronavirus” OR “pneumonia”) AND TITLE-ABS-KEY (“management accounting” OR “analytical accounting” OR “managerial accounting” OR “cost accounting”)) OR LIMIT-TO ( PUBYEAR, 2020 AND 2021)).

Table 1 summarizes the number of documents per type.

**Table 1.** Absolute frequency of publications per type

Type of publication	Absolute frequency
Article	17
Book Chapter	1
Conference Paper	6
Review	1
<b>Total</b>	<b>25</b>

Source: Own research

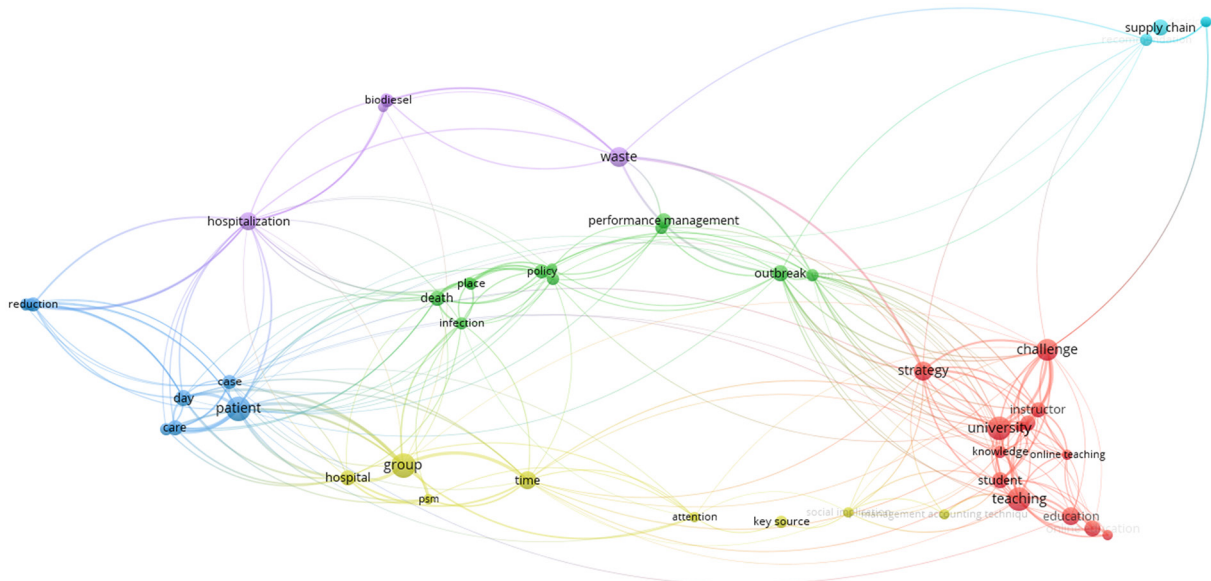
A total of 57 citations were attributed to this set of publications, but part of these was not yet cited (10 publications).

The majority of the studies were conducted by more than one author, meaning that collective and multidisciplinary teams prevail (84%).

In addition to this bibliometric analysis, a content analysis was conducted using computer-assisted methods. For this purpose, text mining techniques were applied to the title and abstract of the publications. The VOSviewer software is used for clustering the themes addressed by scholars, in which only 60% of most significant terms that occurred more than 3 times appear in the output, following previous studies' methodology (Santos et al., 2020).

#### 4. RESULTS

The text mining analysis returned a total of 6 clusters in the literature addressing management accounting in the context of the COVID-19 pandemic published during the years 2020 and 2021. The network visualization is provided in Figure 1 using the word co-occurrence method.



**Figure 1.** Label view of VOSviewer co-occurrence map

**Source:** Own research

The 6 clusters are education (Cluster 1), performance management (Cluster 2), patient care (Cluster 3), hospitality time (Cluster 4), waste management (Cluster 5), and supply chain (cluster 6). Table 2 lists the most frequent terms in each cluster and each term's number of occurrences.

In Cluster 1, scholars explore the online teaching and learning tools used during the lockdown in the context of management accounting disciplines. Some authors focused on finding the advantages and disadvantages of accounting management education under online versus traditional education (Yinghui & Lin, 2021). Others make a comprehensive analysis of the textbooks in this discipline and the adequacy of their content to online learning (Sprakman, 2020).

In Cluster 2, performance management is addressed in a way that contributes to the management accounting literature. In this cluster, scholars study the system of performance manage-

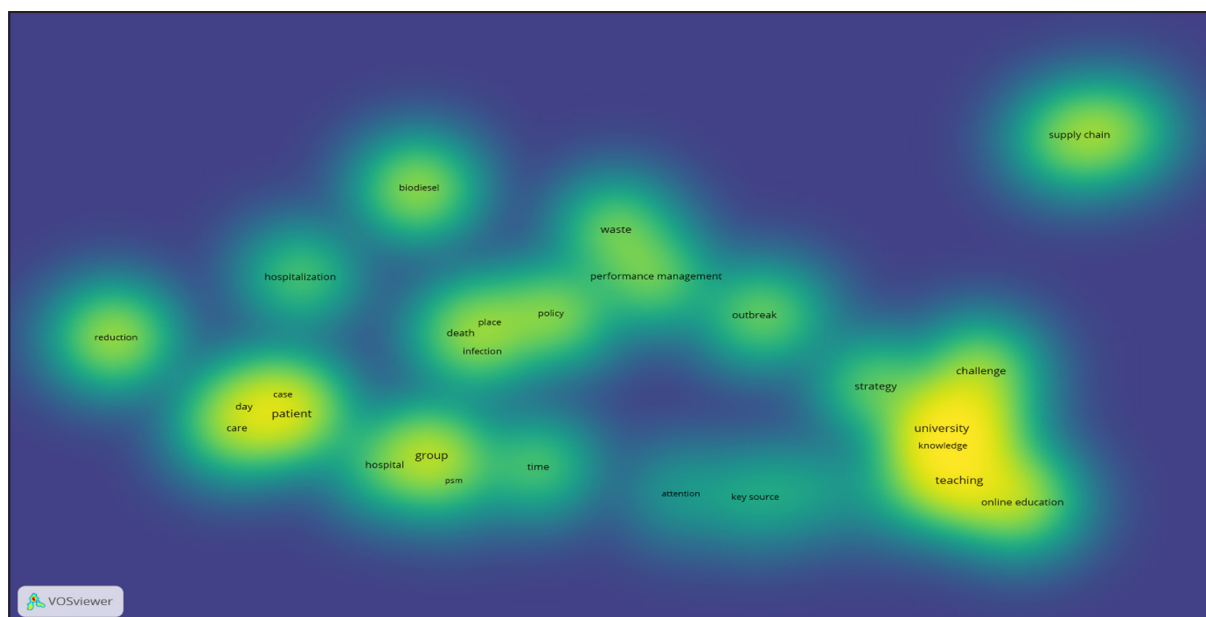
ment employed by countries for integrating COVID-19 pandemic facts, possibilities, values and communication (Mitchell et al., 2021).

In regards to patient care (Cluster 3), scholars review the financial information produced by hospital cost accounting systems in order to evaluate the outcome of new health care models in cost efficiency (Young et al., 2021). The terms in this cluster are the second most significant, as shown in Figure 2.

**Table 2.** Cluster’s characterization

Cluster	Most frequent terms	Number of occurrences	Cluster	Most frequent terms	Number of occurrences
Cluster #1:	teaching	14	Cluster #4	group	15
	university	14		time	8
	challenge	12		hospital	6
	strategy	9		key source	4
	education	8		attention	3
	student	7		social implication	3
	online education	7			
	learning	6			
Cluster #2	outbreak	7	Cluster #5	waste	10
	death	6		hospitalization	8
	performance manag.	6		biodiesel	4
	policy	5		respiratory dis.	4
	solution	4		hospitalization	3
	order	4		Sao Paulo city	3
	fact	4		total cost	
Cluster #3	patient	15	Cluster #6	supply chain	7
	day	7		recommendation	4
	care	6		decision making	3
	case	5		nonprofit	3
	reduction	5		program operation	3
	surgical procedure	4			

Source: Own research



**Figure 2.** Density visualization on VOSviewer map

Source: Own research

The hospital environment is also addressed in Cluster 4 but from a different perspective. Literature using terms included in this cluster is analysing the economic burden of a specific disease (Zhong et al., 2021).

In respect to Cluster 5, by one side, this literature addresses the waste treatment to reduce respiratory diseases. Santana et al. (2021) use data from environmental cost accounting to conclude on how clean production of biofuel from waste cooking oil can support cities to have sales of excess biodiesel, carbon credits, and glycerine, and fuel acquisition savings. On another side, the solid waste management resulting from the COVID-19 pandemic procedures implemented is analysed. Based on the waste management accounting systems, Ragazzi et al. (2020) concluded that, contrary to expectations, single-use masks and gloves do not have a significant impact on waste management. Instead, the dispersion of abandoned masks and gloves outside indoor environments creates a significant cost on collecting it and environmental costs.

Finally, Cluster 6 respects the discussion on how the measures implemented by States in regards to the COVID-19 pandemic affected the supply chains, and how accounting information can have a role in this problem. Scholars contribute to disseminating the importance of accounting management information as an input to mitigate supply chain uncertainties in times of crisis, in case organizations can align the accounting information flows with the supply chain activity flows (Velayutham et al., 2021).

## 5. FUTURE RESEARCH DIRECTIONS

The study provides text mining techniques method for reviewing the literature. It could be replicated in the next years in order to identify trends in research in management accounting in respect to COVID-19 pandemic challenges. Based on the identification of the themes addressed in the studies published until 2021, this study allows for concluding on gaps in management accounting issues that should be addressed by scholars in future research.

## 6. CONCLUSION

The present study unveiled the main clusters of knowledge produced until 2021 in regards to management accounting in the context of the COVID-19 pandemic. Six clusters were identified: education (Cluster 1), performance management (Cluster 2), patient care (Cluster 3), hospitality time (Cluster 4), waste management (Cluster 5), and supply chain (Cluster 6).

The number of publications in 2020 and 2021 is 25, which is a low number. Considering the role that this discipline can play in supporting decisions in an uncertain moment, it was expected that scholars have been producing more contributions to practice. In fact, the decision on the health and protection equipment to use or supply chain can have an important impact on waste to be managed and sustainability of organizations, when delivering products to clients.

Facing this, like many other challenges, this study highlights the need of conducting scientific research in this field to respond to these challenges but also to address other topics not yet published in the literature.

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