63

HOW HAS THE COVID-19 PANDEMIC IMPACTED MANAGEMENT ACCOUNTING ROLES AND ACCOUNTANTS' DECISION-MAKING INFLUENCE?

Doutor/Ph.D. DANIEL MAGALHÃES MUCCI[1], Doutor/Ph.D. KATE E. HORTON[2], Doutor/Ph.D. ANDSON BRAGA DE AGUIAR[1], Doutor/Ph.D. CLÁUDIO DE ARAÚJO WANDERLEY[2]

[1]FEAUSP, SÃO PAULO, SP, Brazil. [2]UFPE, RECIFE, PERNAMBUCO, Brazil

Resumo/Abstract

We examine how the Covid-19 pandemic impacted upon (changes in) management accounting (MA) roles and accountants' decision-making influence. We based our reasoning on two contradictory theories (threat-rigidity and adaptive change) concerning how emergency situations impact organizational change. We developed a survey with controllers in Brazil during the pandemic and obtained a final sample of 96 respondents. We applied the multivariate technique of Structural Equation Modeling estimated by Partial Least Squares (PLS-SEM) to test our hypotheses. Our results demonstrate the impact of a crisis event on the development of roles in the MA profession and accountants' decision-making influence. We provide support for an adaptive change argument – demonstrating that MA roles showed greater adaptation in contexts in which Covid-19 was perceived as highly impactful (both positively and negatively) than in those in which Covid-19 had little impact on organizational functioning. We find that rather than restricting decision-making powers to only top executives in times of crisis (as predicted by threat rigidity theory), the power of management accountants to influence strategic decision-making increased in organizations that were most affected by the pandemic. We add to past accounting literature that has explored crisis contexts by providing empirical evidence on how emergency situations shape accounting practices within the context of an emerging economy – namely that of Brazil. We also offer insights for practitioners, specifically detailing an increase in the decision-making role of management accountants, which can be a necessary positioning to help organizations respond to and overcome future crises effectively.

Modalidade/Type

Artigo Científico / Scientific Paper

Área Temática/Research Area

Controladoria e Contabilidade Gerencial (CCG) / Management Accounting

HOW HAS THE COVID-19 PANDEMIC IMPACTED MANAGEMENT ACCOUNTING ROLES AND ACCOUNTANTS' DECISION-MAKING INFLUENCE?

ABSTRACT

We examine how the Covid-19 pandemic impacted upon (changes in) management accounting (MA) roles and accountants' decision-making influence. We based our reasoning on two contradictory theories (threat-rigidity and adaptive change) concerning how emergency situations impact organizational change. We developed a survey with controllers in Brazil during the pandemic and obtained a final sample of 96 respondents. We applied the multivariate technique of Structural Equation Modeling estimated by Partial Least Squares (PLS-SEM) to test our hypotheses. Our results demonstrate the impact of a crisis event on the development of roles in the MA profession and accountants' decision-making influence. We provide support for an adaptive change argument – demonstrating that MA roles showed greater adaptation in contexts in which Covid-19 was perceived as highly impactful (both positively and negatively) than in those in which Covid-19 had little impact on organizational functioning. We find that rather than restricting decision-making powers to only top executives in times of crisis (as predicted by threat rigidity theory), the power of management accountants to influence strategic decision-making increased in organizations that were most affected by the pandemic. We add to past accounting literature that has explored crisis contexts by providing empirical evidence on how emergency situations shape accounting practices within the context of an emerging economy – namely that of Brazil. We also offer insights for practitioners, specifically detailing an increase in the decision-making role of management accountants, which can be a necessary positioning to help organizations respond to and overcome future crises effectively.

Keywords: Roles of controllers; business partner role; watchdog role; decision-making impact; pandemic Covid-19.

1. INTRODUCTION

During the past century, organizations have responded to relevant crises (i.e., financial stress, natural disasters, pandemic) that have posed several challenges to their continuity. A crisis can be defined as "a rare, significant, and public situation that creates highly undesirable outcomes for the firm and its stakeholders" (James & Wooten, 2010, p. 17). Crises can be either a processual issue or a deviant event (i.e., disasters, abrupt shocks) (Osiyevskyy & Dewald, 2018) and can be triggered by either exogenous shocks or by an organization's endogenous weaknesses. Prior scholars have characterized crises according to three main aspects: the magnitude of their adverse outcomes to organizations, the time pressure involved, and the degree of uncertainty (Hermann, 1963; Dutton, 1986; König et al., 2020). Among recent crises, we can highlight the Covid-19 pandemic in 2020, which started as a global health crisis and turned into an economic and social collapse that had far-reaching consequences for economies and organizations (i.e., reduced demand, supply chain breakdowns, and lack of capital availability) (Bedford, Speklé, & Widener, 2022).

The general management literature lacks consensus about how organizations respond (e.g., leadership and strategies undertaken) to crises that threaten their continuity (Sarkar & Osiyevskyy, 2018). For instance, some scholars provide evidence about radical, innovative actions, while others defend a more risk-averse and change-resistant posture (Osiyevskyy & Dewald, 2018). In the management accounting (MA) literature, scholars have provided evidence that major economic crises, such as the 2008 financial crisis, influence budget roles

(Becker, Mahlendorf, Schäffer, & Thaten 2016), management control systems' use (Janke, Mahlendorf, & Weber 2014) and management accountants' tasks and roles (Becker & Mahlendorf, 2017; Endenich, 2014; Weber & Zubler, 2010). For instance, Becker and Mahlendorf (2017) point out that a crisis can trigger an emphasis on MA tasks such as variance analyses, cash orientations, cost management, and planning and also amplifies the MA business partnering role. Studies have also investigated the severity of Covid-19's impact on budget tightness (Bedford, Speklé, & Widener, 2022), business unit managers' autonomy (Post, Van Roon, & De Loo, 2022) and management control use (Kober & Thambar, 2022; Passetti et al., 2021).

Based on the above-presented studies, we can see that this literature is still fragmented and draws on different and multidisciplinary approaches (James, Wooten, & Dushek, 2011; Kober & Thambar, 2022). There are two schools of thought on how organizations respond to major crisis events. The threat-rigidity perspective (Staw, Sandelands, & Dutton, 1981) suggests that organizational change prompts greater rigidity as organizations stick to what they know and centralize power in the hands of top executives. For instance, a major crisis event leads to centralizing the decision-making process and emphasizing tight control mechanisms (Sathe, 1982; Bedford et al., 2022). Conversely, an alternative school of thought, which is labelled 'the adaptive change' argument (Sarkar & Osiyevskyy, 2018), suggests that organizations become more open to change following a crisis, meaning that adverse/emergency situations stimulate greater adaptation in activities and roles than would happen in ordinary situations.

Against the backdrop of these two (paradoxical) positions, we examine how the Covid-19 pandemic impacted upon (changes in) MA roles and accountants' decision-making impact in organizations. We developed this study with a sample of 96 respondents and tested the hypothesized relationships with structural equation modeling analyses. These two paradoxical theories (threat-rigidity and adaptive change) make different predictions regarding the consequences of a crisis for the roles performed by management accountants and their impact on decision-making during the crisis period. On the one side, based on the threat-rigidity rationale (Staw et al., 1981), management accountants would be expected to emphasize the watchdog role by using budget monitoring routines to guarantee the manager's adherence to the performance targets determined by the top management team. On the other side, based on the adaptive change rationale (Sarkar & Osiyevskyy, 2018), management accountants would be expected to emphasize their business partner role by improving and facilitating strategic and operational decision-making and providing forward-looking information about the business environment.

By examining these two theories we contribute to the extant literature in three primary ways. First, we empirically demonstrate the impact of a crisis event on MA activities. Notably, past research has paid little attention to how such external jolts or crises may affect the development of roles in the MA profession (Becker et al., 2017; Endenich, 2014) and accountants' decision-making influence.

Second, we scrutinize the evidence for two contradictory theories on how emergency situations impact organizational change. In this vein, we provide support for an adaptive change argument – demonstrating that MA roles showed greater adaptation in contexts in which Covid-19 was perceived as highly impactful than in those in which Covid-19 had little impact on organizational functioning. Interestingly, we find that this was the case regardless of whether the pandemic had a positive or a negative impact on the organization. Moreover, we find that rather than restricting decision-making powers to only top executives in times of crisis (as

predicted by threat rigidity theory), the power of management accountants to influence strategic decision-making increased in organizations that were most affected by the pandemic.

Third, we add to past accounting literature that has explored crisis contexts (Becker & Mahlendorf, 2017; Endenich, 2014; Weber & Zubler, 2010) by providing empirical evidence on how emergency situations shape accounting practices within the context of an emerging economy – namely that of Brazil (das Neves Júnior et al., 2021; Alves et al., 2022). We also contribute insights for practitioners concerning the increase in the decision-support role of management accountants, which can be a necessary positioning to help organizations respond to and overcome future crises effectively.

2. LITERATURE REVIEW

In the management accounting context, our understanding of how crisis events (like Covid-19) may impact upon MA activities and outcomes, including how they may affect the role that management accountants play in shaping strategic decision-making, is limited – resulting in calls for further research aimed at addressing this question (Becker & Mahlendorf, 2017; Endenich, 2014). Moreover, the small body of empirical studies focusing on this topic has provided conflicting reports on whether crises accelerate change or promote rigidity and/or whether management accountants' influence on strategic decision-making increases or decreases during such emergency situations. Focusing on the impact of the 2008 economic crisis, Becker et al. (2017) found that management accountants reported having more influence on strategic decision-making following the crisis than they had previously. Becker and Mahlendorf (2017) further report that the crisis motivated changes in accountants' emphasis on specific tasks (e.g., variance analyses, cash orientations, cost management, planning) as well as a shift in controllers' roles (e.g., amplifying business partnering). The authors thus suggest that the role of a management accountant may take on special significance during times of crisis – supporting the often-cited adage that "bad times for the company are good times for the controller" (Becker & Mahlendorf, 2017, p. 299).

Similarly, based on a qualitative study with German and Spanish MA executives, Endenich et al. (2014) found that the financial crisis was a crucial driver for MA change. Specifically, the authors reported that accountants' roles and activities shifted as a result of the crisis – they were elevated into more important roles in corporate decision-making, and their image and position were strengthened as a result. Such findings led Endenich (2014, pp.126-127) to conclude that during a crisis, "we may expect more fundamental and condensed changes in management accounting than under 'normal' economic conditions." These findings are consistent with an adaptive change argument and counter the perception that management accountants may be sidelined from strategic decision-making during periods of crisis. Weber and Zubler (2010), based on a three-wave survey with German controllers, provide a thermometer for changes in MA occasioned by the financial crisis of 2008.

In contrast, in a survey of 1481 finance/accounting professionals in the US, the Middle East, and Asia, Lawson (2020) found that while management accountants' tasks did shift during Covid-19 – with nearly half of the organizations they surveyed reporting an increase in risk management and forecasting management activities following the onset of the crisis – their influence on strategic decision-making reduced. Indeed, the findings showed that companies were more likely to report a decline in their business partner activities (33.5%) than an increase (22%) in these activities in the aftermath of the crisis. These findings support the threat rigidity perspective and the contention that, during emergency situations, strategic decision-making powers may be restricted to a small senior team from which management accountants are excluded. Post et al. (2022), in a survey developed with 70 business unit managers in the

Netherlands, similarly showed a decrease in their autonomy during the first lockdown, supporting the threat rigidity rationale, although they did not demonstrate any increase in tightening budget control.

While most research has (perhaps unsurprisingly) focused exclusively on the challenges arising from crises, researchers have pointed out that emergency situations can instead give rise to opportunities (Kober & Thambar, 2022). Kober and Thambar (2022) discussed the paradoxical tensions generated by the pandemic management control systems in helping organizations survive. On the other hand, Passetti et al. (2021) argue that management control can support firms in adapting to the new circumstances caused by Covid-19 through management control mechanisms to coordinate activities and areas and support quick decisions; however, this might be driven by a change in management accountants' roles.

We were interested in how MA roles changed in firms that were both benefited and hindered by the Covid-19 crisis. Based on past literature, we predicted that the impact of Covid-19 may act as a stimulus for change, causing a change in MA roles for those companies most impacted (positively and negatively) by the change.

2.1. Threat-rigidity effect on MA roles change

According to threat-rigidity theory (Staw et al., 1981), companies will become more rigid in the face of a crisis, such that they will make limited changes to the roles, responsibilities, and remits of organizational members. Staw et al. (1981) argue that crises profoundly impact decision-makers, hindering their ability to conceive actions that deviate from traditional norms. Hence, they often experience a decline in flexibility, blocking new information sharing and maintaining tight control over deviant responses (Staw et al., 1981). A rigid response means that organizations will opt to maintain established routines rather than embrace change in their business models (McKinley, Latham, & Braun, 2014; Osiyevskyy & Dewald, 2018).

Following Staw et al. (1981), threats or so-called crisis events yield two distinct effects. Firstly, they result in narrowed attention spans, simplified information coding, and reduced reliance on multiple communication channels. Secondly, they lead to a tightening of control, causing power and influence to concentrate at higher levels of the organizational hierarchy, which is our focus. A threat resembles a shift towards a mechanistic organizational structure, characterized by an "increased centralization, formalization, standardization and routinization" (Staw et al., 1981, p. 513).

Hence, this theory proposes that if organizations perceive a crisis as a threat to their functioning, they are likely to show greater centralization – tending to consolidate decision-making powers in the hands of a small number of people at the top of the company (Hermann, 1963). There is some support for this perspective in the management literature, with research showing that organizational leaders will often react to a crisis by centralizing their decision-making and attempting to gain a stronger grip over organizational processes (Gulati et al., 2010; Stoker et al., 2019).

In the face of threats, efficiency concerns are expected to dominate, which can be pursued by the implementation of tighter budgets, an increased focus on cost reduction, and intensified efforts to ensure accountability (Staw et al., 1981). Following Post et al. (2022), when facing a major crisis event such as the Covid-19 pandemic, organizations may manifest greater centralization of decisions in the hands of a few top managers, which might have consequences for two aspects related to management accounting roles: an emphasis on the use of tight budgets and controls (Van der Stede, 2011; Becker et al., 2016). Prior studies suggest that organizations need to buy time for subsequent actions in response to the threat, which requires focusing on the operational aspects of budgeting rather than the strategic ones (Becker

et al., 2016). Other researchers also suggest that organizations emphasize short-term decision-making when responding to a crisis event, which manifests in an emphasis on expense reductions and tight budgetary controls (Bourmistrov & Kaarbøe, 2017).

Building upon the arguments presented in the literature regarding the impact of the threat-rigidity effect on organizations, with a specific focus on control mechanisms, we propose two hypotheses that establish a link between the level of impact of the Covid-19 pandemic and the roles played by management accountants, namely the watchdog role and the business partner role.

First, the MA watchdog role (also known as a corporate policeman) emphasizes the use of monitoring mechanisms to ensure that managers pursue the performance targets and internal procedures established in the operational and financial plans, including variance analyses (Hartmann & Maas, 2011; Lambert & Sponem, 2012; Fourné et al., 2018). A watchdog role refers to a focus on guaranteeing firm operations in a scenario of several constraints (e.g., low availability of financial resources, gap/problems in supply chains) (Becker & Mahlendorf, 2017; Endenich, 2014; Bedford et al., 2022). Bourmistrov and Kaarbøe (2017) highlight that during a crisis, MA focuses on expenditure reductions and tight budgetary controls (e.g., Bedford et al., 2022) – a mentality that spreads from the top management throughout the organization.

Passetti et al. (2021) and Kober and Thambar (2022) also argue that MA activities centered on constraining tools such as variance analysis and budgets became more frequent during the Covid-19 pandemic. These controls are helpful for monitoring and assessing the short-term financial impact of the pandemic on the firm (for instance, during lockdowns) and for estimating the pandemic-related costs (sanitation costs, security) (Passetti et al., 2021). This rationale is aligned with prior evidence about changes in MA tasks occasioned by crises (Becker & Mahlendorf, 2017; Endenich, 2014). Hence, we argue that the level of the negative impact of the pandemic on the organization stimulates controllers to spend their time on short-term and financially driven tasks (cost savings, budget tightness), focusing on cash holdings and savings to guarantee the firm's survival, which is aligned with the main tasks performed by watchdogs (Fourné et al., 2018). Based on this argument, we propose the following hypothesis:

H1a: A more severe adverse impact of Covid-19 will be positively associated with an increase in the enactment of MA watchdog roles.

Second, based on threat-rigidity theory, in times of crisis, the onus of responsibility often falls (or is centralized) on the top management of an organization (Staw et al., 1981), and it is unlikely that middle managers (i.e., management accountants) are involved in the decision-making process. In this matter, Post et al. (2022) argue that there is a decrease in managers' autonomy to support and participate in the decision-making process (Staw et al., 1981). This indicates a possible barrier to the establishment of a MA business partner role during a crisis. A business partner role requires management accountants to act proactively, interact with managers from operational areas, provide input and facilitate strategic and operational decision-making, and also participate alongside the top team in making decisions (Granlund & Lukka, 1998; Maas & Matějka, 2009; Fourné et al., 2018). Based on the threat-rigidity lens, we argue that the greater the negative impact of the pandemic faced by the organization, the more that MA business partnering tasks will be constrained and/or diminished.

H1b: A more severe adverse impact of Covid-19 will be negatively associated with an increase in the enactment of MA business partner roles.

2.2. Adaptive change: Impact of the Covid-19 pandemic on MA roles change

Conversely, an alternative body of work suggests that organizational crises can act as a stimulus for change, encouraging organizations to alter longstanding routines and functions in an effort to respond to the changing circumstances (James et al., 2011; Osiyevskyy & Dewald, 2018; Sarkar & Osiyevskyy, 2018). Moreover, challenging the perspective that centralization of decision-making powers might be beneficial following a crisis, some research has suggested that decentralization of decision-making may instead be preferable (Aghion et al., 2021). At the same time, in contrast with the predictions made by the threat-rigidity theory, which predominantly focuses on the challenges that arise during times of crisis (Staw et al., 1981), it is worth noting that such crisis events can also provide opportunities for organizations (Sarkar & Osiyevskyy, 2018). Sarkar and Osiyevskyy (2018, p. 48) consider organizational change broadly as "any alteration of the company's products, services, business model, routines, practices, or policies".

Kober and Thambar (2022) explore the paradoxical tensions that emerge from the utilization of pandemic management control systems and their impact on organizational survival. They mention that to respond effectively to crises, organizations need to be managed based on a unifying framework that encompasses the overall organizational strategy (i.e., long-term strategies) and the immediate urgency of the situation (Muller, 1985; Kober & Thambar, 2022). They also propose that times of crisis demand a radical shift in thinking and an attempt to foster greater innovation than in periods of high profitability (Muller, 1985). The sense of urgency triggered by a crisis is crucial in motivating organizations to think and act creatively (Brockner & James, 2008; Kober & Thambar, 2022).

Moreover, Passetti et al. (2021) argue that management control can support firms in adapting to the new circumstances prompted by the Covid-19 pandemic by employing control mechanisms to coordinate activities, facilitate decision-making, and enable rapid responses. The outbreak of the COVID-19 pandemic compelled organizations to adapt to unprecedented circumstances rapidly, necessitating the exploration of real-time solutions and the recalibration of goals, decisions, actions, and communications. Passetti et al. (2021) claim that management control plays a vital role in facilitating the rapid adjustment to new circumstances by orchestrating appropriate organizational actions and processes to address the crisis and support decision-making. However, this may necessitate a reevaluation of the roles assumed by management accountants, particularly regarding the business partner role.

Becker and Mahlendorf (2017) provide evidence that during the economic crisis, management accountants were positioned as 'pilots,' ensuring both transparency and accountability in the financial figures and generating the future expected results to be met, increasing the proximity of these professionals to the top management team. This proximity requires management accountants to improve their understanding of business initiatives and to analyze them holistically and critically (Becker & Mahlendorf, 2017). Endenich (2014) found that firms employed rolling forecasts and short-term planning ranges. Lawson (2020) shared the results of a global survey developed by the IMA (Institute of Management Accountants), highlighting that finance professionals emphasized risk management and cash forecasting/management tasks during the pandemic. These tasks and behaviors are linked to the profile of a business partner. Finally, another study developed by the IMA, in partnership with the ACCA (Association of Chartered Certified Accountants), showed an increased role of the CFO as a business partner (e.g., leading role in business strategy formulation, providing forward-looking insights) (Webb & Lawson, 2020). Thus, contrasting with the prediction based on threat rigidity theory made in H1b, we make the following prediction.

H2a: A more severe adverse impact of Covid-19 will be positively associated with an increase in the enactment of MA business partner roles.

Different from prior (economic) crises, the Covid-19 pandemic affected organizations heterogeneously; in that we observed industries and firms that did not face any impact and others that benefited (i.e., increase in sales, prices, and clients) or were impaired (i.e., decrease in sales orders, difficulty to access credit) by the pandemic. For instance, we could illustrate, on the one side, the agricultural and food retail industries in Brazil, which largely benefited economically from the crisis (The Economist, 2021) and, on the other side, the tourism and hospitality industries, which were largely impaired economically by this event (Hart, 2021; IMF, 2020). Moreover, the impact of other crisis-related factors on organizations, such as the reliability of the supply chain and employee productivity, were relatively mixed/unclear.

Following the adaptive change argument (Sarkar & Osiyevskyy, 2018) that organizations are more likely to be open to change during a crisis event, we would expect greater adaptation in MA business partner activities and roles independent of whether or not the organization was negatively or positively affected by the crisis. In other words, it may be predicted that organizations that need to respond directly to Covid-19 (to deal with either opportunities or threats) will be required to make changes to products, business models, or practices (Sarkar & Osiyevskyy, 2018), making the MA business partner role increasingly valuable. Considering this rationale, we would expect a higher increase in MA business partner roles when Covid-19 was impactful regardless of whether the pandemic's impact was positive or negative in character. As such we state the following hypothesis:

H2b: There will be a U-shape relationship between the adverse impact of Covid-19 and an increase in the enactment of MA business partner roles.

2.3. Decision-making influence of MA during the pandemic

We also examine whether the impact of the Covid-19 pandemic on organizations is related to an increase in MA decision-making influence (at operational and strategic levels) through changes in the watchdog and business partner roles. Our rationale is grounded in studies that investigated the impact of Covid-19 on management accountants' tasks and management control (e.g., das Neves Júnior, da Costa, & Mourão, 2021; Kober & Thambar, 2022; Passetti et al., 2021).

In a crisis event (high unpredictability), the role of management accountants may be questioned. Indeed, according to the threat-rigidity perspective (Staw et al., 1981), there is likely to be a decrease in MA decision-making influence during a crisis as organizations show greater rigidity and move to a centralized decision-making process in the hands of a few top managers, as well as an emphasis on tight control mechanisms (Sathe, 1982; Bedford et al., 2022). Hence, in line with threat rigidity theory, we predict that there will be a negative relationship between Covid-19's adverse impact and MA decision-making influence, and this relationship will be mediated by an increase in the enactment of MA watchdog roles and a decrease in the enactment of MA business partner roles during the pandemic.

H3a: A more severe adverse impact of Covid-19 will be negatively associated with MA decision-making influence, through an increase in the enactment of MA watchdog roles.

H3b: A more severe adverse impact of Covid-19 will be negatively associated with MA decision-making influence through a decrease in the enactment of MA business partner roles.

However, while some studies have suggested that management accountants will be sidelined during a crisis, others suggest that they may be more valued by their organizations during emergency events (Becker & Mahlendorf, 2017). Indeed, the adaptive change lens (Sarkar & Osiyevskyy, 2018), proposes that organizations become more open to change during emergency situations, which may cause an increase in MA decision-making influence through an increase in the MA business partnering role. For instance, based on evidence from the controllership of a financial institution in Brazil, das Neves et al. (2021) demonstrated that the controllers' role of guiding, inducing, and directing decision-making in a context of unpredictability was sustained and expanded, with also a medium and long-term timeframe. In addition, Endenich (2014) described how the importance of MA increased during the financial crisis due to a heightened requirement for information, communication, and interaction in this period. Based on an adaptive change perspective, we thus present the following hypothesis.

H3c: A more severe adverse impact of Covid-19 will be positively associated with MA decision-making influence through an increase in the enactment of MA business partner roles.

Based on these arguments, we examine how the impact of covid-19 affected management accountants' roles and through this their decision-making influence during the pandemic. In Figure 1, we illustrate our theoretical model.

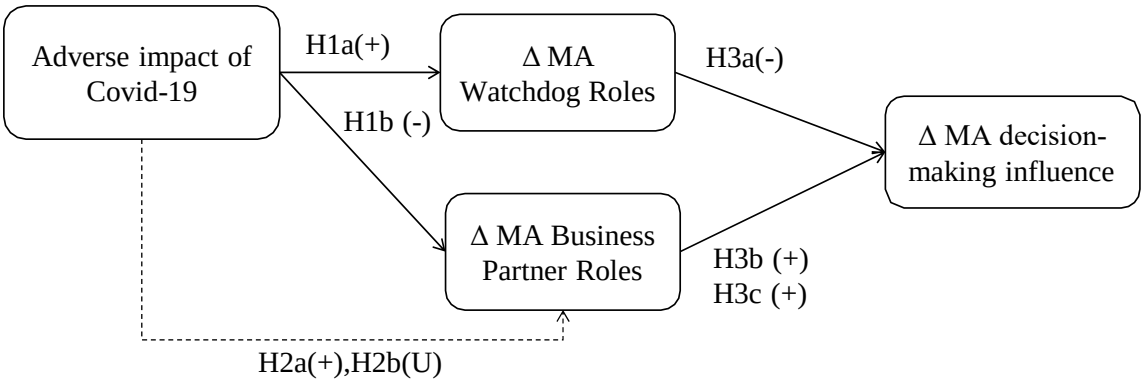

Figure 1. Theoretical model
Note: Management Accounting (MA). H2b refers to the quadratic effect of the adverse impact of Covid-19 and changes in MA Business Partner roles.

3. RESEARCH METHOD

3.1. Sample and Population

For this study, we developed a survey addressing controllers and management accountants working in Brazil between October and November 2021. The target population was professionals with management accounting positions, such as corporate controllers, business unit controllers, finance directors (CFOs), and controllership managers. The population was defined based on a list of large-sized firms (more than 250 employees) from the EMIS® database. A total of 694 invitations were sent, of which 606 were made through LinkedIn® by searching the positions of firms listed in EMIS®. The other invitations (a total of 88) were sent to a personal list of contacts of the researchers involved in the data collection. From these invitations, we received 116 responses (response rate of 16.71%), from which we considered

96 respondents for analyses after excluding nine incomplete responses and eleven responses from small-sized firms (less than 49 employees).

3.2. Variables measurement

We used research instruments that were validated by prior studies and adapted for this research. We adapted most scales to capture the changes (decrease, stable, or increase) during the pandemic.

Increase in the MA decision-making influence during the pandemic (IncMAEffective)**.** Following Weißenberger and Angelkort (2011, p. 168), this construct symbolizes "the outcome of controllers' efforts by reflecting the extent to which controllers influence the organizational process of decision-making and control at the top management level as perceived by management." We measured the increase in the decision-making impact of management accountants during the pandemic through 3-items adapted from the book by Spillecke (2006) and validated by Weißenberger and Angelkort (2011). In our paper, the original scale was adapted to use a 7-point scale, with the following anchors: 1 = "Substantially decreased", 4 = "Remained the same", 7 = "Substantially increased".

Increase in the enactment of MA roles. We focused on controllers' two managerial roles, **Business Partner** (IncMABP) and **Watchdog** (IncMAWatchdog). The business partner role was measured through six questions that capture the activities and functions that characterize a business partner management accountant based on a scale presented by Fourné et al. (2018). These characteristics and functions refer to future discussions with top management, scenario and sensitivity analyses to support strategic planning purposes, and participation in governance and executive board meetings. The Watchdog role was measured by five items encompassing the activities and functions that characterize a watchdog management accountant, such as analyzing variances between the actual and planned performance of organizational units for control purposes and reporting to their superiors about variations in budgeted targets. This measure was also based on Fourné et al. (2018). We measured these items on a 7-point scale with anchors of 1 = "Substantially decreased", 4 = "Remained the same", 7 = "Increased substantially."

Adverse impact of the pandemic (Pandemic). This variable was measured using an adapted version of the scale created by Becker et al. (2016) and validated by Bedford et al. (2022). The scale had six items. The six items were measured on a scale from 1 to 7, with anchors of 1= "We face a significant decrease," 4= "Not affected," and 7= "We face a significant increase." For instance, "were customer orders affected?". For our analyses, we inverted the responses to capture the negative impact of the pandemic crisis (adverse impact); hence for the empirical analysis, ‘1’ was transformed into ‘7’, ‘2’ into ‘6’ and so on.

Control Variables. First, we controlled for the position (Controller) held by the respondent in the controllership area, considering the following: corporate controller and business unit controller, and others being the base category. Second, we controlled for the respondent’s tenure in the firm (number of years) (Tenure). Third, we controlled for firm size (Esize) considering the number of employees: (i) below 500 employees (being the last one in the base category); (ii) between 500 employees and 2,000; (iii) more than 2,000 employees. Fourth, we controlled for industry, these being manufacturing, retail and wholesale, and service (as the base category). Prior studies support inclusion of these control variables (e.g., Rieg, 2018; Karlsson et al., 2019).

3.3. Data analyses method

To test the hypotheses in this study, we applied the multivariate technique of Structural Equation Modeling estimated by Partial Least Squares (PLS-SEM) (Hair Jr. et al., 2013, 2017). This technique was chosen because it is appropriate considering the nonnormal data distribution, the complexity of the model (with mediating variables), and the sample size. Using the PLS-SEM technique, it is possible to reliably estimate complex models and not impose data distribution assumptions as with the covariance-based SEM method. We developed a post hoc test using Gpower 3.1.9.2 software (Faul, Erdfelder, Lang, & Buchner, 2007). For example, considering the most complex model with nine predictors as well as (a) a statistical power of 0.8 (20% type-II error) and a (b) 5% significance level (type-I error), we would detect a medium relative effect (f^2 higher than 0.170) as statistically significant. We also addressed validity concerns related to the implications of common method bias. We conducted Harman's single-factor test and obtained three factors with an eigenvalue higher than one, accounting for 64.7% of the variance. The first factor accounts for 42.0% of the items' variance. This indicator suggests that common method bias might not affect our interpretations.

4. RESULTS

4.1. Descriptive analyses

The descriptive information of our sample is summarized in Table 1. Our sample is predominantly comprised of large-sized firms with more than 250 employees (75%) and manufacturing firms (55%). Regarding revenue, we have firms at different levels; however, the predominance is of organizations with an annual revenue higher than 1 billion BRL (41%). Furthermore, considering the respondents' characteristics, 73% are controllers (corporate, business unit, or manager), and 21% are from C-level positions. In terms of experience, our participants have been working for an average of 5.7 years in their current organization.

Table 1
Respondents' descriptive information

Panel A: Respondents' role			*Panel C: Firm Size Employees*		
C-level (CEO, CFO)	20	21%	Between 50 and 249	24	25%
Corporate controller	34	35%	Between 250 and 499	8	8%
Business Unit controller	15	16%	Between 500 and 2000	26	27%
Controllership manager/supervisor	21	22%	More than 2000	38	40%
Other	6	6%			
			Panel E: Firm Size (Revenue in Millions BRL)		
*Panel B: Firm industry**			Up to 20	3	3%
Retail	15	15.63%	Between 21 and 50	6	6%
Service	29	30.21%	Between 51 and 100	4	4%
Manufacturing	53	55.21%	Between 101 and 300	18	19%
			Between 301 and 500	11	11%
			Between 501 and 1000	14	15%
			More than 1000	39	41%
			Missing	1	1%

Note 1. The percentage sum is higher than 100% since one firm indicates that they simultaneously operate in the retail and manufacturing industry.

4.2. Measurement Model

We developed the Structural Equation Model analysis in two steps: (1) assessment of the measurement model, (2) analysis of the structural model, and hypothesis testing. We follow the guidelines from Hair Jr. et al. (2013; 2017) to proceed with these analyses. Hence, we first evaluated the internal consistency, reliability, and convergent and discriminant validity as parameters for the measurement model assessment (see Tables 2 and 3). Then, we conducted the convergent and discriminant validity analyses using the cross-loadings matrix criterion. We proceeded with rounds of analysis and excluded items that presented low convergent validity (Pandemic4, Pandemic6) and low discriminant validity (IncMAPB4). Hence, the results in Tables 2 and 3 refer to the final measurement model.

The convergent validity is supported since the indicators presented in Table 2 have inner loadings higher than 0.70. Especially for pandemic effect, we observed inner loadings between 0.60 and 0.70, which we decided to keep (Hair Jr. et al., 2013). We assessed convergent validity through the Average Variance Extracted score (above 0.5). Internal consistency and reliability were evaluated respectively through Composite reliability, which scores above 0.70. Regarding discriminant validity, the results indicate that the cross-loadings are lower than the outer loadings. The square root of the AVE of each latent variable is greater than the correlations between the latent variables. We also analyzed the HTMT criterion, which we found to have values lower than 0.85 except for the two roles of MA which had a HTMT of 0.89.

Table 2

Cross-loadings Matrix

	Pandemic	IncMAWatchdog	IncMABP	IncMAEffective
Pandemic1	**0.853**	0.098	0.105	0.040
Pandemic2	**0.819**	-0.012	0.037	0.028
Pandemic3	**0.742**	0.056	0.111	0.082
Pandemic5	**0.561**	-0.037	0.085	0.172
IncMAWatchdog1	0.118	**0.781**	0.602	0.382
IncMAWatchdog2	-0.001	**0.902**	0.746	0.464
IncMAWatchdog3	0.051	**0.876**	0.719	0.461
IncMAWatchdog4	0.113	**0.821**	0.594	0.430
IncMAWatchdog5	0.009	**0.799**	0.675	0.408
IncMAPB1	0.103	0.596	**0.766**	0.451
IncMAPB2	0.090	0.692	**0.874**	0.452
IncMAPB3	0.063	0.719	**0.869**	0.457
IncMAPB5	0.075	0.642	**0.863**	0.518
IncMAPB6	0.199	0.709	**0.835**	0.522
IncMAEffective1	0.082	0.439	0.547	**0.935**
IncMAEffective2	0.098	0.500	0.534	**0.937**
IncMAEffective3	0.101	0.508	0.534	**0.946**

Note 1. From the original models, we excluded items that presented low convergent validity (Pandemic4, Pandemic6) and low discriminant validity (IncMAPB4).

Table 3
Fornell and Lacker Matrix

	1	2	3	4
1. Pandemic	**0.752**			
2. IncMAWatchdog	0.068	**0.837**		
3. IncMABP	0.129	0.799	**0.842**	
4. IncMAEffective	0.1	0.514	0.573	**0.939**
Cronbach's alpha	0.756	0.892	0.897	0.933
Composite reliability (rho_c)	0.836	0.921	0.924	0.957
Average variance extracted (AVE)	0.566	0.701	0.71	0.882

Note 1: Correlations above |0.206| are significant * $p < 0.05$ and |0.261| are significant at ** $p < 0.01$.
Note 2: The values on the diagonal are the square roots of the average variances extracted; because these values are higher than the correlations between the latent variables (values outside the diagonal), there is discriminant validity. The values outside the diagonal are the correlation coefficients between the latent variables. (Hair Jr. et al., 2013)

4.3. Structural Model

The second step of the SEM analysis involves testing the hypotheses through the relationships between the latent variables following Hair Jr. et al. (2013; 2017) guidelines. First, we analyzed multicollinearity based on the variance inflation factor (VIF), and our results suggest that multicollinearity is not a concern (because all VIF values are below 5). Second, we analyze the structural path coefficients (both size and statistical significance). These results were obtained through a bootstrapping procedure based on 5,000 subsamples, bias-corrected confidence levels, and two-tailed tests. We also assessed the adjusted R-square, which indicates the percentage of a dependent variable's variance explained by the independent variables. Finally, we presented the effect size coefficient (f^2), which indicates the size of the effect of the independent variable on the dependent variable, considering the classification suggested for the social sciences (Cohen, 1988): Small effect ($f^2 = 0.02$); medium effect ($f^2 = 0.15$); and large effect ($f^2 = 0.35$). These results are presented in Table 4. The interpretations will focus on the model's results, including the control variables.

Table 4
Structural Model Results – Direct and Quadratic Effects

	β	**P values**	**f2**	**B**	**P values**	**f2**	**R2adj**
PANDW1 -> MAWATCHDOG	0.068	0.703	0.005	0.101	0.558	0.010	-0.003
ESIZE -> MAWATCHDOG				-0.270	0.438	0.018	
Industry -> MAWATCHDOG				-0.402	0.242	0.024	
Position -> MAWATCHDOG				0.084	0.774	0.001	
Tenure -> MAWATCHDOG				-0.077	0.522	0.006	
PANDW1 -> MABPARTNER	0.168	0.318	0.032	0.220	0.183	0.054	0.129
QE (PANDW1) -> MABPARTNER	**0.279**	**0.046**	**0.118**	**0.295**	**0.040**	**0.140**	
ESIZE -> MABPARTNER				-0.250	0.407	0.018	
Industry -> MABPARTNER				-0.596	0.094	0.060	
Position -> MABPARTNER				0.114	0.688	0.002	
Tenure -> MABPARTNER				-0.021	0.851	0.001	

MAWATCHDOG -> MAEFFECH	0.155	0.258	0.013	0.183	0.184	0.018	0.316
MABPARTNER -> MAEFFECH	**0.449**	**0.000**	**0.110**	**0.410**	**0.001**	**0.092**	
ESIZE -> MAEFFECH				0.075	0.734	0.002	
Industry -> MAEFFECH				-0.281	0.384	0.017	
Position -> MAEFFECH				0.029	0.920	0.000	
Tenure -> MAEFFECH				0.096	0.232	0.014	

Note 1. Classification of Cohen (1988): small effect ($f^2 = 0.02$), medium effect ($f^2 = 0.15$), and large effect ($f^2 = 0.35$).
Note 2. Esize, Position, Tenure, and Industry are the control variables in our model. QE (PANDW1) refers to the quadratic effect of the pandemic.

4.3.1. Threat-rigidity effect on MA roles change

First, our results do not provide statistically significant evidence of a direct relationship between the impact of the Covid-19 pandemic on organizations and an increase in the enactment of MA watchdog roles or a decrease in the enactment of MA business partner roles, as predicted in H1a and H1b. We thus do not find support for the threat-rigidity argument that, during a crisis, organizations show greater centralization in the top management team (Staw et al., 1981; Post et al., 2022), and as a consequence, an emphasis on the use of tight budgets and controls (watchdog role). In addition, based on threat-rigidity theory, we do not find a constraining effect of the impact of the pandemic on the MA business partner role (proactive interaction with managers from operational areas and facilitating decision-making).

This does not mean controllers did not change their roles during the pandemic since our descriptive analyses showed changes in the activities performed by controllers during the pandemic. However, these results indicate that the degree of impact of the pandemic on the firm did not seem to influence the change in these roles directly.

4.3.2. Adaptive change: Impact of the Covid-19 pandemic on MA roles change

In line with the adaptive-change lens (Sarkar & Osiyevskyy, 2018), which predicts that an increase in the MA business partner role will be useful for organizations to thrive in organizational change through products, business models, or practices, we observe a U-shape relationship between the (adverse) impact of the pandemic and changes in the MA business partner role. Hence, we find support for H2b, with respect to the predicted quadratic relationship between the pandemic's impact and an increase in the enactment of MA business partner roles (β=0.295, p=0.040, f^2=0.140). The results are presented graphically in Figure 2, showing a higher increase in the enactment of business partner roles at the two extremes of (positive/negative) impact. Notably, we thus found that both organizations that benefited and those that were economically impaired by the pandemic showed an increase in the enactment of MA business partner roles. However, we observed a particularly high increase in the MA business partner role for organizations that were negatively impacted by the Covid-19 pandemic. In addition, we found that organizations that did not suffer any change in their operations did not show any change in the MA business partner role.

Figure 2. Quadratic effect (Pandemic) on the IncMABP.

This result supports the proposition that during a crisis such as the Covid-19 pandemic, decentralization of decision-making may be preferable and, in particular, management accountants may become closer to operational areas and to the top management team, positioning themselves as 'pilots' to coordinate activities, facilitate decision-making, and enable rapid responses (Becker & Mahlendorf, 2017; Kober & Thambar, 2022; Passetti et al., 2021).

4.3.3. Decision-making influence of MA during the pandemic

Finally, our results do not support H3a or H3b which predicted indirect effects of the impact of the pandemic on a decrease in MA decision-making influence through MA watchdog and business partner roles (see Table 5). Therefore, we do not find support for arguments based on threat-rigidity theory, which predicted that decision-making would be centralized in the top management team as well as directed by control and tight mechanisms (Sathe, 1982; Bedford et al., 2022). However, in line with predictions based on the adaptive change theory, we find support for an indirect relationship between the impact of the pandemic and an increase in MA decision-making influence, mediated by an increase in the enactment of business partner roles (H3c, β=0.121, p=0.066). We thus find support for Hypothesis 3c.

Table 5
Structural Model Results – Indirect effects

	β	|T statistics|	P values
PANDW1 -> MAWATCHDOG -> MAEFFECH	0.018	0.442	0.659
PANDW1 -> MABPARTNER -> MAEFFECH	0.09	1.193	0.233
QE (PANDW1) -> MABPARTNER -> MAEFFECH	**0.121**	**1.837**	**0.066**

5. CONCLUSIONS

This paper aimed to examine how the Covid-19 pandemic impacted upon (changes in) management accounting (MA) roles and their decision-making impact. Our hypotheses were developed based on two contradictory theories (threat-rigidity and adaptive change) on how emergency situations impact organizational change. To achieve this purpose, we tested these hypotheses with a sample of management accountants in Brazil.

Our results do not provide support for the threat-rigidity theory (Staw et al., 1981; Sarkar & Osiyevskyy, 2018), which would be manifested in an increase in the MA watchdog role and a decrease in the MA business partner role, as well as a decrease in MA decision-making influence during the pandemic. Instead, our study findings lend support to the notion of adaptive change (Sarkar & Osiyevskyy, 2018). In particular, we discovered that the MA business partner role exhibited higher levels of adaptability in contexts where the impact of Covid-19 was perceived as highly significant, whether positive or negative, compared to situations where the pandemic had minimal repercussions on organizational functioning (U-shape effect). Notably, our findings challenge the conventional belief that decision-making powers are solely reserved for top executives during times of crisis (threat-rigidity effect). Rather, they show that management accountants in pandemic-hit organizations had a heightened influence on decision-making during Covid-19, mediated by an increase in MA business partner roles.

This study has several implications for the academic and practitioner literatures. First, we examined the evidence for two divergent theories regarding the effect of emergency situations on organizational change (threat-rigidity and adaptive change) and explored whether those theories were consistent with the observed changes in MA roles (watchdog and business partner) (Becker et al., 2017; Endenich, 2014) and decision-making influence. In doing so, we provide support for the adaptive change theory, which has been little examined in past empirical studies. Second, we contribute to prior accounting literature that has explored crisis contexts (Becker & Mahlendorf, 2017; Endenich, 2014; Weber & Zubler, 2010; Post et al., 2022) by providing empirical evidence on how emergency situations shape accounting practices within the context of an emerging economy – namely that of Brazil (das Neves Júnior et al., 2021; Alves et al., 2022). Third, as a practical implication, this study shows that the pandemic could be seen as an important driver for changes in MA tasks and roles, especially leading to the prominence of the business partner role (i.e., involved in scenario and sensitivity analysis, use of non-financial performance measures and participation in strategic choices discussions). Hence, our study sheds light on the growing importance of the decision-making role of management accountants, which is crucial in assisting organizations in effectively responding to and overcoming future crises.

This study has limitations, from which we can also provide avenues for future research. First, as a cross-sectional survey design, the interpretations of our study do not indicate causality. Hence, a future longitudinal design (quantitative or qualitative) could provide insights into how the pandemic affected controllership over a period of time and in the long-term. Second, the survey design could also raise issues related to common method bias (CMB), which in this paper, we tested through the Harman test (Podsakoff, Mackenzie, & Podsakoff, 2012). However, using multiple respondents (See Weißenberger & Angelkort. 2011), would have been preferable in order to support the claims of causality and minimize the potential effects of CMB. Third, we conducted the research with professionals and organizations in Brazil. Considering the different policies to overcome the adverse effects caused by the pandemic adopted by each country and their economic and social characteristics, it is possible that our findings would not have been observed in other countries. For instance, in studies developed with European and American professionals, the impact of the pandemic might have had different outcomes, such as an increase in controllership activities (Lawson, 2020, Webb & Lawson, 2020) as well as management controls use (Bedford et al., 2022; Kober & Thambar, 2022; Passetti et al., 2021). However, quantitative empirical evidence about this phenomenon is still scarce.

REFERENCES

Aghion, P., Bloom, N., Lucking, B., Sadun, R., & Van Reenen, J. (2021). Turbulence, firm decentralization, and growth in bad times. American Economic Journal: Applied Economics, 13(1), 133-169.

Alves, C. F. L., Parisi, C., Oyadomari, J. C. T., & Peleias, I. R. (2022). Como atua um controller business partner? Estudo baseado em práticas do mercado. Revista Contemporânea de Contabilidade, 19(50), 9.

Becker, S. D., & Mahlendorf, M. D. (2017). The influence of the economic crisis on the tasks and roles of management accountants. In The Role of the Management Accountant (pp. 292-304). Routledge.

Becker, S. D., Mahlendorf, M. D., Schäffer, U., & Thaten, M. (2016). Budgeting in times of economic crisis. Contemporary Accounting Research, 33(4), 1489-1517.

Bedford, D. S., Speklé, R. F., & Widener, S. K. (2022). Budgeting and employee stress in times of crisis: Evidence from the Covid-19 pandemic. Accounting, Organizations and Society, 101346.

Bourmistrov, A., & Kaarbøe, K. (2017). Tensions in managerial attention in a company in crisis: How tightening budget control resulted in discomfort zones for line managers. Journal of Accounting & Organizational Change.

Brockner, J., & James, E. H. (2008). Toward an understanding of when executives see crisis as opportunity. The Journal of Applied Behavioral Science, 44(1), 94-115.

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences. 2nd ed. Routledge, New York, NY.

Das Neves Júnior, I. J., da Costa, L., & Mourão, S. (2021). Controladoria em tempos de pandemia: reflexões e contribuições para a indústria financeira. Brazilian Journal of Development, 7(7), 71760-71780.

Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. Journal of business research, 117, 284-289.

Dutton, J. E. (1986). The processing of crisis and non-crisis strategic issues. Journal of Management Studies, 23(5), 501-517.

Endenich, C. (2014). Economic crisis as a driver of management accounting change: Comparative evidence from Germany and Spain. Journal of Applied Accounting Research, Vol. 15 No. 1, pp. 123-149.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior research methods, 39(2), 175-191.

Fourné, S. P., Guessow, D., & Schäffer, U. (2018). Controller roles: Scale development and validation. In Performance measurement and management control: The relevance of performance measurement and management control research. Emerald Publishing Limited.

Fourné, S. P., Guessow, D., Margolin, M., & Schäffer, U. (2023). Controllers and strategic decision-making: The role of cognitive flexibility in controller-manager collaboration. Management Accounting Research, 100840.

Granlund, M., & Lukka, K. (1998). It's a small world of management accounting practices. Journal of management accounting research, 10, 153.

Gulati, R., Nohria, N., & Wohlgezogen, F. (2010). Roaring out of recession. Harvard Business Review, 88(3), 62-69.

Hair Jr., J.F., Hult, T.M., Ringle, C.M. and Sarstedt, M. (2013), A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), SAGE Publications, California.

Hair Jr., J.F., Sarstedt, M., Ringle, C.M. and Gudergan, S.P. (2017), Advanced Issues in Partial Least Squares Structural Equation Modeling, SAGE Publications, Thousand Oaks, CA.

Hart, R. (2021). Collapse Of Tourism During Pandemic Could Cost Global Economy $4 Trillion. Retrieved from: https://www.forbes.com/sites/roberthart/2021/06/30/collapse-of-tourism-during-pandemic-could-cost-global-economy-4-trillion/?sh=5568f59f5912

Hartmann, F. G., & Maas, V. S. (2011). The effects of uncertainty on the roles of controllers and budgets: An exploratory study. Accounting and Business Research, 41(5), 439-458.

Hermann, C. F. (1963). Some consequences of crisis which limit the viability of organizations. Administrative science quarterly, 61-82.

IMF (2020). Tourism-dependent economies are among those harmed the most by the pandemic. Retrieved from: https://www.imf.org/en/Publications/fandd/issues/2020/12/impact-of-the-pandemic-on-tourism-behsudi

James, E. H., & Wooten, L. P. (2010). Leading under pressure: From surviving to thriving before, during, and after a crisis. Routledge.

James, E. H., Wooten, L. P., & Dushek, K. (2011). Crisis management: Informing a new leadership research agenda. Academy of Management Annals, 5(1), 455-493.

Janke, R., Mahlendorf, M. D., & Weber, J. (2014). An exploratory study of the reciprocal relationship between interactive use of management control systems and perception of negative external crisis effects. Management Accounting Research, 25(4), 251-270.

Karlsson, B., Hersinger, A., & Kurkkio, M. (2019). Hybrid accountants in the age of the business partner: exploring institutional drivers in a mining company. Journal of Management Control, 30(2), 185-211.

Kober, R., & Thambar, P. J. (2022). Paradoxical tensions of the COVID-19 pandemic: a paradox theory perspective on the role of management control systems in helping organizations survive crises. Accounting, Auditing & Accountability Journal, 35(1), 108-119.

König, A., Graf-Vlachy, L., Bundy, J., & Little, L. M. (2020). A blessing and a curse: How CEOs' trait empathy affects their management of organizational crises. Academy of Management Review, 45(1), 130-153.

Lambert, C., & Sponem, S. (2012). Roles, authority and involvement of the management accounting function: a multiple case-study perspective. European Accounting Review, 21(3), 565-589.

Maas, V. S., & Matejka, M. (2009). Balancing the dual responsibilities of business unit controllers: Field and survey evidence. The Accounting Review, 84(4), 1233-1253.

McKinley, W., Latham, S., & Braun, M. (2014). Organizational decline and innovation: Turnarounds and downward spirals. Academy of Management Review, 39(1), 88e110

Müller, R. (1985). Corporate crisis management. Long Range Planning, 18(5), 38-48.

Osiyevskyy, O., & Dewald, J. (2018). The pressure cooker: When crisis stimulates explorative business model change intentions. Long Range Planning, 51(4), 540-560.

Passetti, E. E., Battaglia, M., Bianchi, L., & Annesi, N. (2021). Coping with the COVID-19 pandemic: the technical, moral and facilitating role of management control. Accounting, Auditing & Accountability Journal, 34(6), 1430-1444.

Podsakoff, P.M., Mackenzie, S.B. and Podsakoff, N.P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review Psychology, Vol. 63, pp. 539-569.

Post, K., van Roon, Å., & De Loo, I. (2022). De impact van het Threat-rigidity effect op de ervaren rolambiguïteit van businessunitmanagers in de COVID-19-crisis. Maandblad voor Accountancy en Bedrijfseconomie, 96(9/10), 315-328.

Lawson, R. C. M. A. (2016). How controllers become business partners. Strategic Finance, 98(1), 24.

Rieg, R. (2018). Tasks, interaction and role perception of management accountants: evidence from Germany. Journal of Management Control, 29(2), 183-220.

Sarkar, S., & Osiyevskyy, O. (2018). Organizational change and rigidity during crisis: A review of the paradox. European Management Journal, 36(1), 47-58.

Sathe, V. (1982). Controller involvement in management. Englewood Cliffs, NJ: Prentice Hall.

Spillecke, D. (2006). Interne Kundenorientierung des Controllerbereichs: Messung-Erfolgsauswirkungen-Determinanten (Vol. 22). Springer-Verlag.

Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat rigidity effects in organizational behavior: A multilevel analysis. Administrative Science Quarterly, 501-524.

Stoker, J. I., Garretsen, H., & Soudis, D. (2019). Tightening the leash after a threat: A multi-level event study on leadership behavior following the financial crisis. The Leadership Quarterly, 30(2), 199-214.

The Economist (2021). As food prices soar, big agriculture is having a field day. Retrieved from: https://www.economist.com/business/2021/07/29/as-food-prices-soar-big-agriculture-is-having-a-field-day

Webb, C., Lawson, R. (2020). The CFO of the Future. Retrieved from: https://www.imanet.org/-/media/5ced0d3dfada40e78a4cac19797e8300.ashx

Weber, J., & Zubler, S. (2010). Bewältigung der Finanz-und Wirtschaftskrise im Controlling–Einsichten aus dem WHU-Controllerpanel. Controlling & Management, 54, 13-18.

Weißenberger, B. E., & Angelkort, H. (2011). Integration of financial and management accounting systems: The mediating influence of a consistent financial language on controllership effectiveness. Management Accounting Research, 22(3), 160-180.