Adapting management control to virtual teams: evidence from a natural experiment

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Abstract

Purpose – The COVID-19 pandemic has forced many organisations to transform face-to-face teams into virtual ones through the adoption of remote working modes. This event has represented the starting point of a process that is changing how management control (MC) systems are designed and implemented to guide employees towards organisational objectives. The previous literature on virtual teams (VTs) has devoted scant attention to MC issues. This study aims to fill this gap by exploring how MC – and particularly cultural control – has changed to cope with the shift from face-to-face to VTs and by analysing the interrelationship between the different control mechanisms and the resulting tensions.

Design/methodology/approach – The research adopts the methodological framework based on abduction to provide a theoretical explanation and conceptualisation of MC in virtual settings. To tackle the research objective, this work undertakes a cross-sectional field study based on semi-structured interviews with managers of different service companies.

Findings – The results of the research highlight the key challenges that managers are called to deal with to design and change MC systems when implementing remote working. In particular, managers must cope with the reduced possibility to leverage cultural controls. To do this, this study's analysis found that managers act by introducing and/or removing formal and informal controls and by orchestrating the interplays and tensions between these mechanisms.

Originality/value – To the best of the authors' knowledge, to date limited attention has been paid to MC in VTs. Moreover, few researchers have investigated the process of MC change from face-to-face to VTs. This work aims to contribute to this nascent stream of literature by providing interesting implications for both research and practice.

Keywords Management control, Package, Cultural control, Virtual team, Remote working, System

Paper type Research paper

1. Introduction

The year 2020 was dramatically characterised by the outbreak of COVID-19. This pandemic event has changed many aspects of our societies, including the way in which businesses operate (Amankwah-Amoah *et al.*, 2021; Gilson *et al.*, 2021; Pianese *et al.*, 2023). Due to the lockdown measures applied to multiple countries across the globe, many businesses have

adopted solutions aimed at transforming employees' working conditions to allow them to work "virtually" from home in remote mode. Many managers, however, were not trained to cope with remote working, as most of the businesses were used to working in face-to-face teams. Moreover, some of the mechanisms commonly used to exercise management control (MC) – i.e. direct observation, face-to-face meetings, informal chats and gatherings – were no longer available (Delfino and van der Kolk, 2021).

One of the new possibilities offered by information and communication technology (ICT) technologies to work in remote mode are virtual teams (VTs), a relatively new form of teams. The literature on VTs management appeared at the start of the 21st century (Cascio, 2000; Holton, 2001; Martins *et al.*, 2004). However, to the best of the authors' knowledge, limited attention has been paid to MC issues in VTs (Bisbe and Sivabalan, 2017; Delfino and van der Kolk, 2021).

According to Pianese *et al.* (2023), future studies on controls in VTs should specifically address understanding how MC systems change during the implementation of remote work. The issue is relevant (and complex), as in virtual settings managers face a paradox. On the one hand, they need to rediscover how to run organisations based more on trust than on formal controls (Handy, 1995). On the other, managers are deprived of some of the key mechanisms through which they are used to building trust in face-to-face teams (Delfino and van der Kolk, 2021; Dani *et al.*, 2006) – i.e. cultural controls such as socialisation practices, physical proximity.

Taking advantage of the – often compulsory – shift from face-to-face to remote working that has occurred in the vast majority of businesses across the globe, which we may consider a natural experiment, this research focuses on how managers have changed and adapted MC when implementing VTs and how managers coped with the interplay of controls and the resulting tension in the design of the renewed MC systems – with a specific focus on the role and functioning of cultural controls. The authors analyse the counter-measures adopted by managers to control, manage, and coordinate teams that used to work face-to-face but that, since the pandemic's outbreak, have been working – at least for a period of time – in remote mode; these managers have thus been deprived of a set of informal controls pivotal to creating and maintaining their organisational culture and trust. In other words, the study aims to understand how MC was transformed to cope with this "revolutionary" change and to preserve the practice of power as it was before its occurrence (Burns and Scapens, 2000; Carlsson-Wall *et al.*, 2020). This calls for the adoption of a holistic view of MC – i.e. a perspective that takes into account all the mechanisms used to guide people's behaviour within an organisation (Otley, 1980; Malmi and Brown, 2008; Merchant and Otley, 2020), their interdependencies (Grabner and Moers, 2013; Demartini and Otley, 2020) and the dynamic tension generated by their combined use (Mundy, 2010; van der Kolk *et al.*, 2020). To the best of the authors' knowledge, this call has not been addressed yet in the literature on MC in VTs which has tended to focus on single control mechanisms or typologies and their relationships with other variables. Indeed, few studies have adopted a holistic view of MC to frame and understand the interplay between control mechanisms and the resulting tension in VTs. Pianese *et al.* (2023) identify this topic as a promising area of investigation.

This research aims to fill the gaps identified in the literature by addressing the following research questions (*RQs*):

RQ1. How does MC change during the implementation of VTs?

RQ2. What are the roles and functions of cultural controls in VTs?

RQ3. What are the interdependencies and tensions between control mechanisms that managers take into account when designing MC systems in VTs?

To answer these research questions, a cross-sectional field study was conducted. Specifically, 20 managers were involved through semi-structured interviews.

The article is structured as follows. Section 2 focusses on the theoretical background based on MC systems and on VTs. Section 3 explains the methodology. Section 4 presents the results, which are discussed in Section 5 of the article. Conclusions and future research agendas are then presented in Section 6.

The results obtained advance knowledge on the MC of VTs by explaining how control works in virtual settings – in terms of the roles and interplay between mechanisms – and what managers should pay attention to in the transition from face-to-face teams to VTs.

2. Theoretical background

2.1 A holistic view of management control

Managerial control has been defined primarily as "the mechanisms through which an organization can be managed so that it moves toward its objectives" (Ouchi, 1979, p. 833).

MC change may be affected by many factors, both internal and external to the organisation (Hardy, 1996; Dillard *et al.*, 2004; Burns and Scapens, 2000; Alsharari *et al.*, 2015; Giannetti *et al.*, 2021). According to Anderson and Ackerman-Anderson (2010), identifying the drivers of change is pivotal to understand and guide change throughout organisations. In the case of management accounting, changes belong to the realm of the so-called organisational imperatives – i.e. what must change in the organisation's structure, systems, processes, technology, resources, skill base or staffing to address the business objectives (Anderson and Ackerman-Anderson, 2010). These changes thus have a direct impact on culture and people's behaviours within the organisation. Malmi and Brown (2008, p. 290) defined MC mechanisms as "all the devices and systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organisation's objectives and strategies". According to these authors, and many others (Grabner and Moers, 2013; De Jong *et al.*, 2014; Evans and Tucker, 2015; Bedford *et al.*, 2016; Merchant and Otley, 2020; Barretta and Noto, 2023), MC should be conceived as a set of various formal – e.g. key performance indicators (KPIs), budgets – and informal – e.g. clan controls, symbols – mechanisms interacting with each other.

Therefore, the study of management accounting change requires a theoretical framework that is able to consider many factors, such as the process nature of change and a comprehensive view of the MC package analysed (Evans and Tucker, 2015; Giannetti *et al.*, 2021; Barretta and Noto, 2023).

A taxonomy of the categories into which one may classify control mechanisms was provided by Malmi and Brown (2008) based on previous literature on the topic (Chenhall, 2003; Fisher, 1995, 1998; Flamholtz, 1996; Langfield-Smith, 1997; Otley, 1980; Simons, 1995). Although they do not provide an exhaustive list of control mechanisms, these authors identified five typologies of MCs: planning, cybernetic controls, reward and compensation systems, administrative controls and cultural controls. The first three typologies are mechanisms that belong to the "formal" performance management (PM) cycle. Administrative controls include organisational design and structure, governance structure, policies and procedures. Finally, for cultural controls, Malmi and Brown (2008) included values, symbols and clan controls. Cultural controls are those mechanisms aiming to foster the process of employees internalising the organisation's norms, values, objectives and ways of doing things to the extent that employees become morally committed to them (Jaeger and Baliga, 1985; Harris and Ogbonna, 2011; Merchant and Van der

Stede, 2012). They mainly act through socialisation practices (Wilkins and Ouchi, 2011). Once implemented and institutionalised, the key advantage of cultural controls is that they are often powerful and stable (Merchant and Van der Stede, 2012; Dumay and Dai, 2017).

The multiple control mechanisms characterising organisational control can be related to one another in a spectrum of possible coupling states (Demartini and Otley, 2020) that range from tightly integrated sets of mechanisms – the literature calls these arrangements "systems" (Chenhall, 2003; Grabner and Moers, 2013; Merchant and Otley, 2020) – to loosely coupled (or not integrated at all) elements – the literature calls these arrangements "packages" (Grabner and Moers, 2013; Demartini and Otley, 2020). The interdependences between control elements may be classified as complementary or substitutive (Grabner and Moers, 2013). Controls are complementary when the benefits of a mechanism increase with the combined use of other mechanisms and vice versa. By contrast, controls are substitutive when the benefits of a mechanism decrease with the combined use of other mechanisms and vice versa (Grabner and Moers, 2013).

Some of the studies adopting such a holistic view of MC have also introduced the notion of tensions to examine the interplay of controls (Henri, 2006; Mundy, 2010; van der Kolk *et al.*, 2020). According to these studies, MC mechanisms have a complex and dynamic tension between one another; they thus need to be balanced to achieve effective control. The tension is complex, as it may have both positive and negative effects on performance; and it is dynamic because the tension between controls may change over time (Mundy, 2010; van der Kolk *et al.*, 2020). Due to these characteristics, tensions require continuous attention from managers. These may influence the tension by affecting the balance, and balance tensity and intensity of MC elements (van der Kolk *et al.*, 2020). How organisations and managers attempt to balance controls and how this balance creates dynamic tension in VTs has not yet been addressed by the literature.

In the context of this study, the adoption of a holistic view of MC allows the authors to assess how MC changed during the transition from face-to-face teams to VTs by analysing the introduction, removal or adaptation of control mechanisms and their coupling to deal with the new mode of working, with a specific focus on cultural controls. An exclusive focus on single elements or a sub-set of controls – such as cultural controls – might be misleading, as the process of change in the MC also needs to consider the interdependencies among the existing mechanisms (Merchant and Otley, 2020; Demartini and Otley, 2020; Barretta and Noto, 2023) to explore the related tensions (Mundy, 2010; van der Kolk *et al.*, 2020).

2.2 Virtual teams and management control

Studies on VTs started to become popular among management scholars in the late 1990s and early 2000s due to the advancement in ICTs allowing people to work in remote mode (see, among others, Ahuja and Galvin, 2003; Ale Ebrahim *et al.*, 2009; Cascio, 2000; Furst *et al.*, 1999; Gibson and Cohen, 2003; Gibson and Gibbs, 2006; Gilson *et al.*, 2015; Griffith and Neale, 2001; Handy, 1995; Kayworth and Leidner, 2000; Leclercq-Vandelannoitte, 2021; Martins *et al.*, 2004; Powell *et al.*, 2004; Shapiro *et al.*, 2002; Santana and Cobo, 2020; Pianese *et al.*, 2023). In their literature review, Martins *et al.*, (2004, p. 808) defined VTs as "teams whose members use technology to varying degrees in working across locational, temporal, and relational boundaries" to accomplish a common organisational goal (Bisbe and Sivabalan, 2017).

Although interesting studies have been carried out on the management of teams at the managerial and organisational levels (Cascio, 2000; Dulebohn and Hoch, 2017; Leclercq-Vandelannoitte, 2021; Martins *et al.*, 2004; Piccoli *et al.*, 2004; Solomon, 2001), to the best of the authors' knowledge, only a few have specifically contributed to the MC literature (Bisbe

and Sivabalan, 2017; Delfino and van der Kolk, 2021; Mack and Goretzki, 2017; Piccoli *et al.*, 2004). Nevertheless, studies focusing on VT management have provided interesting implications for MC.

First of all, one of the most widely explored issues focuses on the relationship between control and trust in VTs (Handy, 1995; Jarvenpaa *et al.*, 1998; Jarvenpaa and Leidner, 1999; Pauleen and Yoong, 2001; Holton, 2001; Piccoli and Ives, 2003; Martins *et al.*, 2004; Bisbe and Sivabalan, 2017). Trust may be defined as "the individual's (or group's) belief that another individual (or group) makes good faith efforts to behave in accordance with any commitments both explicit and implicit" (Dani *et al.*, 2006, p. 951). As such, trust is closely connected to the organisational culture (Cameron and Quinn, 1999), as if team members share the same values and beliefs, they tend to behave consistently and thus trust each other. Organisational culture is developed and transferred within a firm through the use of cultural controls (Harris and Ogbonna, 2011). Scholars have ascertained that trust is a key factor in ensuring the success of VTs (Jarvenpaa *et al.*, 1998; Jarvenpaa and Leidner, 1999; Martins *et al.*, 2004), but the reduced opportunity to socialise and the consequent sense of isolation pose challenges to its development (Jarvenpaa *et al.*, 1998; Jarvenpaa and Leidner, 1999; Cascio, 2000; Pauleen and Yoong, 2001; Kirkman *et al.*, 2002); this issue requires managers to act as coaches, team integrators and motivators (Dambrin, 2004; Khan, 2012; Kwon and Jeon, 2020). The literature has also determined that MC and trust are closely related – albeit in a complex way (Piccoli and Ives, 2003; Dekker, 2004; Bisbe and Sivabalan, 2017). In fact, while trust improves information sharing, thus improving other MC mechanisms' effectiveness, research has discovered the varying and sometimes controversial effects of controls on trust (Das and Teng, 1998; Hertel *et al.*, 2005; Vélez *et al.*, 2008; Bisbe and Sivabalan, 2017). According to Dekker (2004), for instance, trust and formal controls are inversely related; more trust results in less use of formal controls and vice versa.

Interesting implications for MC mechanisms (this time administrative) may be found in research focussed on the recruitment and management of new VT members (Cascio, 2000; Blackburn *et al.*, 2003; Maznevski and Athanassiou, 2003; Cummings and Dennis, 2018). Overall, these studies outline the challenges of integrating new human resources in VTs and the transference of the organisational culture and trust. Moreover, administrative controls, and in particular the implementation of new ICTs, have been the focus of studies that have generally concluded that the proper selection and use of ICTs is key to facilitating effective communication and information exchange between team members and ensuring social interaction (Jarvenpaa and Leidner, 1999; Cascio, 2000; Riopelle *et al.*, 2003; Kimble, 2011; Thomas and Bostrom, 2010; Ruiller *et al.*, 2018; Pianese *et al.*, 2023).

Concerning formal PM mechanisms, research on VTs reports the adoption of formal MC mechanisms similar to those used in conventional teams (Bell and Kozlowski, 2002; Hertel *et al.*, 2005; Markus *et al.*, 2000; Bisbe and Sivabalan, 2017). Particular attention has been paid to objective settings and management by objective (MBO) and its effect on employee behaviour (Kurland and Egan, 1999; Pianese *et al.*, 2023). In VTs, organisations usually combine MBO and autonomy to monitor employees (Leclercq-Vandelannoitte *et al.*, 2014; Groen *et al.*, 2018). In this regard, outcome-based targets and the setting of objectives assumes a central role. According to an instrumental view of performance (Bianchi, 2016), the latter can be structured as strategic resources (or input), intermediate results (or output) and end results (or outcome). Outcome-based PM (i.e. setting targets and objectives based on the end results the organisation aims to achieve) has been widely debated in the literature since the final decades of the 20th century (Anderson and Oliver, 1987; Banker *et al.*, 1996; Eisenhardt, 1985, 1988; Lau *et al.*, 2008; Ouchi, 1979). The renewed interest in outcome-based performance targets in the case of virtual team MC may be explained by the fact that,

as maintained by Anderson and Oliver (1987), outcome-based control requires less managerial supervision of employees and, as the name suggests, supervision in VTs is scant (Wilson, 1999). Despite this, coming back to the key issue and paradox of control in VTs, outcome-based control requires trust and building trust requires the adoption of cultural control mechanisms.

What emerges from this brief review of the extant literature is that because of the absence of physical proximity and visibility, virtual contexts render forms of cultural control such as direct supervision, unplanned communication exchanges, peer surveillance, socialisation, physical meetings, inoperable or less operable than in collocated workplaces (Delfino and van der Kolk, 2021; Bisbe and Sivabalan, 2017). The key difference lies in the fact that in VTs most organisations and managers cannot rely on physical spaces, which Parker (2020) identified as important means to exercise control. Thus, MC in VTs necessarily differs from their face-to-face counterparts; subsequently, the transition from face-to-face to remote working means effort is needed to adapt and change existing MC practices. This paper addresses this issue.

Moreover, most of the extant literature on MC in VTs focuses on single control mechanisms or relationships neglecting the system (or package) of MC elements that characterise modern organisations. This paper, in contrast to previous studies on VTs, adopts a holistic perspective of control to analyse MC as a whole – i.e. as a system (or package) of mechanisms guiding people's behaviour.

3. Method

To develop this research, the author followed the methodological framework provided by Pfister et al. (2023) for theoretical explanations in MC research. This framework proxies the abductive research process and consists of three levels which increase conceptual and theoretical abstraction: descriptive, analytical and explanatory. In the first phase, adopting the theoretical lens provided by the literature on the holistic view of MC, the authors listed the MC practices in place both before the pandemic and during the mandatory remote working. In the second phase, the material collected was analysed to understand the drivers of change and the related MC solutions designed. Last, in the third phase, the authors attempted to develop a theoretical explanation by analysing the interplay and tensions existing between MC elements and by examining the renewed role and functioning of cultural controls. To achieve this, starting from the observation gained through a cross-sectional field study (Lillis and Mundy, 2005; Byrne and Pierce, 2007; Merchant and Manzoni, 1989), this article proposes a conceptualisation based on two frameworks. The first focusses on how MC tend to change based on the drivers of change and the related solutions. The second focusses on the renewed role and functioning of cultural controls by analysing the interdependencies and tensions emerging between control mechanisms.

The cross-sectional field study is based on semi-structured interviews with managers of different service companies (Abernethy and Lillis, 1995; Byrne and Pierce, 2007; Dai et al., 2019; El Masri et al., 2017; Horton et al., 2004; Delfino and van der Kolk, 2021). The method is suited to the purposes of this research, as cross-sectional field studies are aimed at broadening our understanding by detecting cross-case patterns in specific issues (Lillis and Mundy, 2005), such as MC change (Helliar et al., 2002; Scapens and Jazayeri, 2003). The adoption of semi-structured interviews allowed the authors to obtain managers' perceptions directly (Byrne and Pierce, 2007) and to explore the practice of accounting "as a process" (Ahrens and Chapman, 2006).

The selection criteria included those managers who directly supervise at least four individuals and whose team mainly operated face-to-face before the pandemic and,

following lock-down measures, was obliged to work in remote mode for a period of time. The authors selected managers among members of an association promoting working flexibility and then proceeded through chain referral sampling (Biernacki and Waldorf, 1981). Additionally, the authors selected managers operating in the service industry. According to the authors, companies operating in this industry are those in which changes in MC can be better appreciated, as they continued to deliver their services during the pandemic by transferring all of their activities to remote mode. This may not necessarily be true in manufacturing and other types of industries.

Overall, 20 managers were interviewed from September 2020 to February 2021 – that is, while many countries were facing the so-called second wave of the COVID-19 pandemic. The number of interviews was defined according to two criteria: saturation, referring to the ability to obtain new information (Guest *et al.*, 2006; Neu *et al.*, 2014; Suddaby, 2006; Flick, 2009), and the number of interviews performed in previous studies in management accounting (Dai *et al.*, 2019). Table 1 reports the details of the interviews. In particular, it provides demographic information about managers – specifically their background, gender, and the number of people they directly managed – and general information on the firms in which they work – i.e. the year of foundation of the business, the sector, the size (according to the UE classification – UE n. 2003/361/CE), the country, whether they are a multinational company, and whether they already had experience of or their company had experimented with remote working (in affirmative cases, previous experiences were limited to a few employees working remotely for a maximum of two days a week).

As illustrated in Table 1, the interviewees held managerial responsibilities in companies operating in different sectors and different countries. This heterogeneity was searched by the authors to identify common characteristics of MC in VTs.

To conduct the semi-structured interviews, the authors developed a questionnaire (Annex 1) aimed at deepening the aspects related to the research objective. The questionnaire was first tested with two managers and then refined and used with all of the interviewees. The questionnaire was sent to the key informants prior to the interviews to guarantee full awareness of the theme on which the authors wanted to focus. The interviews were then annotated and the text was indexed and coded to support the analysis and interpretation of the results. To make sense of the collected data, the authors adopted both deductive and inductive coding approaches (Linneberg and Korsgaard, 2019; Gioia *et al.*, 2013). During the coding, these approaches focus on both the theoretical concepts or themes drawn from the existing literature and those emerging from the interviews. Two orders of codes have been identified. A first-order code comprehends "drivers" – which identifies the factors that pushed managers to adopt changes in MC. The purpose of this label is the identification of the drivers of change, as suggested by Anderson and Ackerman-Anderson (2010). The second first-order code is "solutions" – referring to the changes implemented by managers and organisations to tackle the drivers thereof. This code aims to analyse managers' interventions on the MC practices by adopting the holistic perspective mentioned in the theoretical background – which means considering the package of different typologies of control mechanisms available to managers. The second order related to "drivers" comprehends the coding of "autonomy", "culture and trust" and "process and ICT". The first identifies employees' requests for greater autonomy and flexibility; "culture and trust" identifies the need to create and cultivate business culture and trust between team members and managers; while "process and ICT" identifies the need to design (or re-design) organisational processes and ICT integration. The second order referring to "solutions" includes the following theoretical concepts derived from Malmi and Brown's (2008)

ID	Background	No. of people directly managed	Gender	Sector	Company size	Country	Multinational company	Previous experience
M1	Management	6	M	Food and Tech	Big	UK	Yes	Yes
M2	Economics	5	M	Advisoring	Small	Saudi Arabia	No	No
M3	Management	4	M	Advisoring	Small	Italy	No	Yes
M4	Economics	4	M	Finance	Big	Italy	No	Yes
M5	Finance	7	M	Finance	Big	Italy	No	Yes
M6	Finance	6	M	Finance	Big	Italy	No	Yes
M7	Management	10	F	Auditing	Big	Italy	Yes	No
M8	Finance	>10	M	Pharma	Big	Switzerland	Yes	Yes
M9	Management	7	M	Insurance	Big	Italy	Yes	No
M10	Management	7	M	Food and Tech	Big	Italy	Yes	No
M11	Management	7	M	Advisoring	Small	Spain	Yes	Yes
M12	Engineering	5	M	Energy and Automotive (research)	Small	Italy	No	Yes
M13	Management	10	M	E-commerce	Small	Italy	Yes	Yes
M14	Management	>10	M	Shipping and Public transport	Big	Italy	No	No
M15	Management	6	F	E-commerce	Big	Italy	Yes	No
M16	Management	>10	F	Auditing	Big	Luxembourg	Yes	No
M17	Management	7	M	Advisoring	Small	Italy	No	Yes
M18	Management	6	M	Advisoring	Small	Italy	No	No
M19	Management	>10	M	Energy	Big	Italy	No	No
M20	Psychology	5	F	Pharma	Big	Italy	Yes	Yes

Source: Authors' own work

Table 1.
Interviewees'
characteristics

taxonomy: "change in cultural mechanisms", "change in administrative mechanisms", and "change in performance management mechanisms".

4. Results

The results are organised in two sub-sections. The first reports the descriptive and analytical phases of the research. In particular, the authors identified the drivers of change emerging from the external contingency and the consequent management reaction in terms of MC change. The second sub-section focusses on the resulting theoretical explanation related to the interplay of control mechanisms and the renewed role and functioning of cultural controls. To provide an improved sense of meaningfulness to the results, the authors make extensive use of quotations (Ghepart, 2004).

4.1 Analysis of management control practices

The drivers of change that emerged during the analysis are consistent with what was outlined by previous literature on VT management. These are the employees' request for greater autonomy and flexibility, the need to create and cultivate business culture and trust and the need to design (or re-design) organisational processes and ICT integration.

Employees' requesting greater autonomy and flexibility is closely related to the possibility of improving work–life balance when working in remote mode. In many cases, it was observed that working in remote mode provides an opportunity to improve workers' motivation by leveraging the improved flexibility and the consequent improvement in the balance between their working activity and the time devoted to other activities. This is mainly related to the time saved in the daily commute from home to the office and to the possibility of sharing more quality time with family, friends, and hobbies. This positively impacts motivation and thus team members will generally be more available and productive than before.

The solutions to this request for additional autonomy and flexibility were mainly related to the increase in team members' accountability and responsibilities and a shift towards MBO. In the words of one of the interviewed managers:

> M3. One of the biggest challenges was to give additional autonomy and responsibility to each individual and to ask them about the achievement of objectives.

Such a solution was carried out through the revision of the typology of objectives used in the PM mechanisms already in place. Indeed, performance reports, budgets and reward schemes have been maintained in almost every experience. Some have increased the frequency of business reports and reviews, whilst others have changed the way they disclose information to team members and improved the performance information exchange; for example, instead of sending a report by email, this was presented and discussed at formal meetings.

The most significant change has provided greater autonomy and flexibility to employees; specifically, this is the object of control. In fact, several managers have reported employees' willingness to focus performance measurement and evaluation on a set of outcomes to be accomplished rather than on the processes and outputs needed to achieve them. Accordingly, there has been a strong push towards the measurement and evaluation of outcomes and progressive abandonment of the measurement of intermediate results and productivity intended as the number of outputs produced during working hours.

The shift towards MBO and outcome-based targets required a change in the managerial approach. As reported by some managers:

> M4. We need to change our way of thinking and to adopt an approach towards the achievement of objectives without controlling the intermediate steps. This requires us to identify clearly defined objectives and to set deadlines to evaluate their achievement.

M12. Today it is key to set outcome-based objectives. It is necessary to create tools that allow people to work like that, and allow the management to have control over these aspects which is not simply the number of hours worked or the number of pages produced.

However, it is important to mention that input and output objectives were not completely abandoned. Although several managers highlighted the need to focus PM on outcomes, in some cases it emerged that the measurement of processes and the related output was the key to understanding the reflection of environmental change on the workload:

M10. With the pandemic, we experienced rapid growth in the demand for our service. One of the practices was to ask some people in my team to provide me with a short report on their daily activities. This allowed me to notice in good time that they were overloaded.

The second driver of change identified is related to the need to create and cultivate the business culture and trust. In fact, to attribute autonomy and thus responsibility and accountability throughout the organisational structure, it is crucial that employees share the same business culture and the same values. In the words of the managers interviewed:

M1. In my opinion, one of the biggest challenges is to create and cultivate a team and business culture, namely the set of values that you as a manager believe are important. This happens because there is less possibility to have informal interactions with and between team members, for example, the chats in the hallway or the chats desk-to-desk. These are important to create team building and business culture. [. . .] In our case, the situation was ok, the team members already knew each other and had already absorbed our business culture; however, if you have to start from scratch with a new team or a new venture, this would be a huge challenge.

M14. Working in remote mode may lead to the "individualization" of the job and create disaffection and disengagement with respect to the team, the office and the company.

M18. The greatest challenges that emerged during the first wave of the pandemic could be related to the spread and infusion to the employees of the sense of belonging, the values – also at the ethical level – and the motivation. These aspects may become critical with regard to employees who do not have consolidated experience within the company before the lockdown and become real barriers to those who start working in remote mode.

The solution identified by managers to cope with this situation is related to the introduction of new cultural and administrative controls that aim to create opportunities facilitating the exchanging of ideas and fostering socialisation within the team.

First of all, training was introduced (as reported by managers of larger companies) as a tool to foster team members' engagement and motivation:

M14. We fostered our training activities. Our training programme was reoriented towards the development of soft skills. This was well received by the employees, who felt themselves to be involved in the company life.

Another change is related to recruitment processes. These have been transformed to allow recruiters to understand the personal and behavioural attitudes of candidates and, thus, the possibility of including these individuals in their team. Managers highlighted that it is difficult to share the team's values and culture with new members when face-to-face meetings are non-existent or sporadic. Consequently, considering the existence of values and attitudes consistent with those of the organisation during the recruitment became pivotal:

M10. I hired a new member last month and we did not have many opportunities to meet face-to-face. Therefore, for me, it is difficult to get to know her. May I use some humour or not? [. . .] I

changed the approach in the last interviews before hiring this person. I focused less on the technical characteristics and more on the behavioural ones.

M13. Yesterday we hired a guy for our IT staff without even meeting him face-to-face. To do that, we changed the recruitment process, which now requires additional phases and steps.

Consistent with the current literature (Pianese *et al.*, 2023), some of the managers interviewed also suggested the enrolment of a new professional figure aimed at maintaining contact and connections between teams and team members:

M11. A new production manager was appointed to find new mechanisms to exchange information between different teams.

M13. Since we are a small business, a part of my job is to schedule individual informal calls with everyone, especially those who do not work directly with me and chat about other stuff like sport, etc. In my opinion, this helps a lot. [. . .] It emerges now that there is a need to recruit a "people manager" to support the connection between team members and their motivation. This is what I am doing now as entrepreneur and CEO, and it is a hard job.

The previously described mechanisms – training, meeting frequency, team integrators – also aimed to foster virtual socialisation practices. Socialisation is often used as a tool to motivate people and teams to achieve their objectives (Malmi and Brown, 2008). As remote working causes feelings of isolation and frustration for various individuals with respect to their job, managers are required to "cheer them up" (M5, M6, M7). To accomplish this, many interviewers suggested or tried to create virtual social moments, for example, a "virtual coffee" or "virtual beer" after work:

M6. I had to pay attention to "free time" during working hours. For example, exactly as it happens in the office, we take some moments in which we talk about something else and take a coffee together. I also pushed members of my team to maintain active relationships with members of other units.

M10. I have been in touch with my team exclusively to talk about our job. There were no pre- and post-meeting occurrences in which we were used to chatting about other things. This helps. Therefore, I created a moment in the morning in which we have a coffee all together. This ritual gives us a rhythm.

The last driver identified was related to the need to design (or re-design) organisational processes and integrate ICTs. Indeed, working through VTs has often necessitated the designing and redesigning of organisational processes and for the introduction of new ICTs to support information exchange and communication between team members. As reported by the managers of smaller firms:

M2. We are a young firm; therefore, many of our processes are not formalised yet. I see this experience as an opportunity to create new and better-structured management systems.

M3. I believe that this could be an opportunity to redesign organisational processes and absorb the technology that we are using in a permanent manner. This would result in savings and in better commitment from the team.

M20. We need to better organise work (times, roles, and responsibilities) so that even those who work remotely can be engaged through the new remote working tools and have their job deadline.

For instance, every organisation had to adopt, adapt, and use ICTs aimed at enabling and permitting every person in the team to communicate and interact with both their team counterparts and their manager. These include tools to perform video calls; instant messaging software applications or channels; clouds to share documents and worksheets, and so on. For

instance, creating channels for specific projects in instant messaging software applications was the key to allowing better communication among team members:

> M10. Creating a channel for every project in this app allows team members to exchange information and ask questions without me necessarily receiving notifications. This fosters team communication.

Furthermore, even though one of the advantages of remote working is related to the fact that it could provide more flexibility in terms of working hours during the day, various managers strengthened the working time controls to guarantee the development of business processes:

> M2. When switching to remote mode, we had to implement more rules, more controls; we are not there yet. For example, we were more flexible about working time, for instance, the time when people arrive at the office; now we have a call in the morning and we have to start all at the same time. We had to establish new rules.

> M3. It was necessary to improve training and process standardisation.

Consistently, meeting agendas were also redefined to balance the reduced opportunities to interact with the team and team members. In particular, almost all of the experiences reported indicated an increase in scheduled and non-scheduled meeting frequency:

> M1. The hint also at the top management level was to increase the frequency of interactions to create a better alignment within the company.

> M4. We did not have a meeting schedule; usually, we were used to meeting once a week. Today we meet daily.

> M9. One-to-one feedback meetings were scheduled once every six months. Today they occur once per month. [. . .] We implemented a 30-minute daily meeting to create alignment with regard to the job to be done.

In many cases, managers found that it was particularly useful to oblige team members to activate the video of their webcam when participating in meetings. Overall, several managers already used to part of their team working remotely (e.g. M1, M8) did not report any difficulties in managing those people. By contrast, the part of the team used to working face-to-face required the same kind of effort experienced by other teams. This can be explained by the fact that remote teams already had the necessary ICT tools and organisational processes set up for this purpose and, most importantly, people were committed and used to focusing on outcomes.

Changes in governance and organisational structures have also been made or suggested. For instance, in the case of a large company, some *ad hoc* committees were created to improve the management of specific activities and tasks.

Table 2 summarises the results emerging from the descriptive and analytical phases of the research.

4.2 The role and functioning of cultural control in virtual teams – analysis of the coupling and tensions between the control mechanisms

To comprehensively address the second and the third research questions, an in depth analysis of the role of cultural controls and their functioning – in terms of their interplay with other mechanisms – is needed.

As the results of the previous section highlight, cultural controls have been used to cope with the need to develop and maintain the business culture and trust in the team – as often happens in face-to-face teams. The difference is that the effectiveness of VTs' cultural

Driver	Solution	Typology
Autonomy and flexibility	Outcome-based MBO	PM mechanism
Process and ICT	Process standardization	Administrative mechanism
	ICT software (chats and videocall)	Administrative mechanism
	ICT software (shared documents)	Administrative mechanism
	Frequent online meetings	Administrative mechanism
	Governance and organizational structure	Administrative mechanism
Business culture and trust	Training	Cultural mechanism
	Virtual socialization	Cultural mechanism
	Team integrator	Administrative mechanism
	Recruitment process	Administrative mechanism
Source: Authors' own work		

Table 2.
Drivers of MC
change and identified
solutions

controls is reduced by the absence of physical proximity and that their adoption is thus enabled by other administrative mechanisms.

In fact, to create trust and to spread and cultivate the organisational culture throughout the VTs, the interviewed managers levered on training (in the case of larger firms) and on virtual socialisation:

M20. At the moment, all employees are involved in a training programme on accountability. The aim is to improve the engagement of the employees toward the common organisational goals.

M14. Training was also a placebo, many employees felt excluded from their lives at any moment because for many of us work is life.

Virtual socialisation was addressed through a set of administrative controls. First of all, the adoption of ICTs such as chats and online conference software guarantees (or attempts to guarantee) the possibility of having informal exchanges among team members:

M14. We have equipped everyone with technology and devices to allow them to work to the best of their ability.

M19. In the initial phase, the challenge was to strengthen the IT platform to manage and equip the staff with the necessary support to work remotely. We had to reorganise our work by further dematerialising the part of the work that was still on paper. We all had to quickly get used to using online meeting systems which we now use without problems. Now, even when we are in the office, we still have meetings online using these tools.

The frequency of meetings was increased to guarantee a continuous alignment between both team members and managers. Creating *ad hoc* meetings to create and foster virtual socialisation was the most commonly adopted practice. In many cases, these meetings assumed the nature of rituals. To achieve this, it was also important to create some rigid rules regarding the working time (as, for example, the starting time of the business day). This allowed every component of the team to be online and connected to participate in these rituals at the same time.

Another key administrative solution was the introduction of professional figures aimed at creating and maintaining the engagement of team members with the organisational goals – known as the "team integrator" or "trust broker" in the literature (Julsrud, 2008; Khan, 2012).

This set of administrative controls, mainly based on rules and procedures, allowed managers to implement virtual socialisation and thus leverage culture and trust, which are pivotal to fostering team members' accountability and subsequently to effectively implement outcome-based MBO.

In fact, as emerged from the interviews and consistently with the literature, the implementation of outcome-based MBO to respond to the request for greater autonomy and flexibility by the team members was key in most of the experiences. Adopting this kind of PM mechanism allows organisations to switch from input and output control to the control of the end results the organisation aims to achieve. To do this, as reported by one of the interviewed managers, team members are called upon to assume greater responsibility and accountability:

> M9. We shifted from a rigid control on output to an outcome-based one through a better strategic engagement, as for example by communicating long-term organisational goals. Greater individual accountability is required, and this can be pursued through their engagement.

Outcome-based MBO can be implemented if an adequate level of trust is present within the team and between the team members and their manager. As previously outlined, to build trust in VTs through the use of MC elements, managers can rely on cultural controls (virtual socialisation and training), which can be enabled exclusively through the use of administrative controls such as the team integrator, the adoption of specific ICTs and frequent meetings.

However, rules and procedures may also have a negative impact on cultural control effectiveness – e.g. they may reduce trust – as the relationship between MC elements is complex (van der Kolk *et al.*, 2020). Managers are thus required to balance the dynamic tension between administrative controls (e.g. too many meetings online) and cultural ones:

> M11. We tried to create social moments such as the "virtual beer" after work; however, it did not last since we already spend a lot of time working in video conferences.

Figure 1 portrays the relationship between the mechanisms activated by managers to address MC in VTs. The black and thick arrows identify complementary interdependencies, whereas the thin and dashed ones represent tensions between control elements.
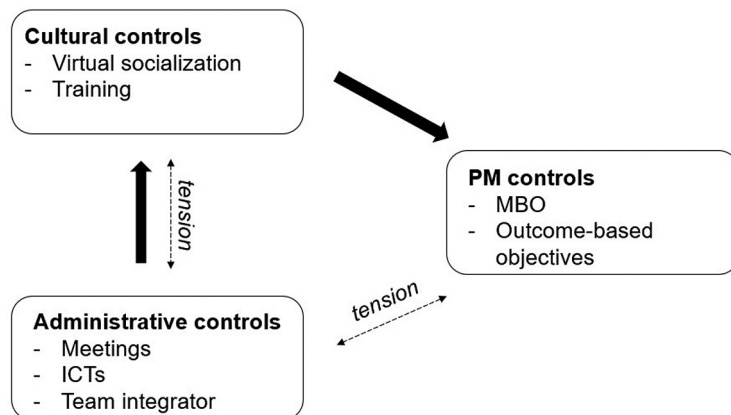

Figure 1.
MC interdependencies in VTs

Source: Authors' own work

5. Discussion

This research was based on a natural experiment that emerged due to the recent pandemic that drastically changed the way in which business teams operate. The natural experiment consisted of the transition from face-to-face teams to virtual ones. This transition was not motivated by company or management choices but rather was the result of an environmental contingency. Thus, even those managers who did not consider the possibility of allowing and using remote working were asked to manage their whole team virtually.

To conduct this research we started by identifying the drivers of change (Anderson and Ackman-Anderson, 2010) and the related solutions. This allowed us to properly understand the reactions of managers to the identified needs – both theirs and those of their employees. The development of the theoretical contribution advanced by this article is based on the holistic view of MC, which maintains that control in organisations is executed through the means of systems or packages composed of multiple formal and informal mechanisms (Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Otley, 1980). The adoption of such a view allowed the authors to provide an original contribution since the previous literature on control in VTs has largely focussed on single control elements or typologies. The result is that extant research findings are sometimes conflicting since their interpretation highly depends on the specific controls analysed, as well as the internal and external context explored. The adoption of a holistic view, on the other hand, allowed us to analyse the whole picture providing meaning to the functioning of different control typologies and to the interplay and relationship between MC elements. Thanks to the aforementioned natural experiment, the authors focused on how MC elements and their relationships were required to change due to the shift from face-to-face teams to VTs.

With regard to the first research question – i.e. how does MC change during VT implementation – we identified three drivers of change and the related solutions implemented by the interviewees.

The first driver, which is the search for additional autonomy and flexibility, required managers to switch to the adoption of an outcome-based MBO, thus progressively (but not entirely) abandoning input and output-based objectives. This result confirms that managers may find it useful to adopt outcome-based targets since they require less direct supervision (Anderson and Oliver, 1987), something that is rarely performed in VTs.

The second driver identified concerns the need to create and cultivate business culture and trust. As managers have a smaller set of cultural mechanisms in VTs than can be implemented in face-to-face teams, the solutions identified also contemplate the introduction of administrative controls such as new recruitment processes and the introduction of new professional figures – i.e. the team integrator (Khan, 2012) – within the organisational structure. Additionally, training on soft skills and virtual socialisation has been recognised as important cultural controls aimed at addressing this third driver.

The third driver, which is related to the need to design (or re-design) organisational processes and to integrate ICTs, was addressed by the interviewed managers by enhancing administrative controls such as the standardisation of processes (O'Sullivan, 2003), the implementation of new ICT devices (Jarvenpaa and Leidner, 1999; Riopelle et al., 2003; Ruiller et al., 2018), greater meeting frequency and re-designing the organisational structure.

Changes were needed in all of the MC systems used by the interviewed managers. However, what emerged from our analysis is that organisations with previous experience of remote working – albeit not fully remote working – were at an advantage, as they already had the necessary ICT infrastructure and tools to manage virtual relationships between managers and employees and among employees. Moreover, on average, these teams had a stronger business culture that was useful in the process of providing additional autonomy

and flexibility to employees. On the other hand, teams in which team members had not absorbed the organisational culture when the switch to VTs occurred found it much more difficult to implement MC (Blackburn *et al.*, 2003; Cummings and Dennis, 2018).

The second research question aimed to understand the renewed role of cultural control mechanisms in virtual settings. The relevance of this research question is linked to the fact that in VTs managers are deprived of many of them (Delfino and van der Kolk, 2021) – e.g. informal gatherings, face-to-face meetings and direct observations. Managers are thus called to find replacements for these or to strengthen other mechanisms to cover their previous role.

To answer this second research question, it is important to highlight that cultural controls in virtual settings are mainly enabled by administrative mechanisms and, in particular, ICT devices (Kimble, 2011; Thomas and Bostrom, 2010). Virtual socialisation and training, implemented to address the need to create and cultivate business culture and trust, are indeed implemented through the use of devices such as instant messaging chats and video-call meetings (Figure 1). Indeed, as reported by the previous literature, the proper selection and use of ICTs is key to ensuring social interaction among team members (Pianese *et al.*, 2023).

The role reserved for cultural controls in face-to-face teams was mainly related to the development and spreading of the organisational culture through the sharing of values, socialisation, etc. (Harris and Ogbonna, 2011). This activity is now performed by virtual cultural controls (virtual socialisation and training), as well as some administrative controls that emerged in the interviews as effective in supporting the creation of business culture and trust.

The paradox of MC in VTs is that, to cope with the request for additional autonomy and flexibility, managers tended to implement outcome-based MBO. To accomplish this, they needed to leverage strong business culture and trust. However, the controls usually adopted to create them are the cultural ones that in VTs are non-adoptable or less effective. In our research, we identified that the functioning of cultural controls in VTs should be supported by administrative controls both to enable them – through the adoption of ICT devices aimed at supporting virtual socialisation and training – and to strengthen them – through the introduction of team integrators or by re-designing recruitment processes aimed at hiring people already aligned with the organisational values. As such, this research highlights that managers may compensate for the lack of cultural controls by strengthening administrative ones. In fact, while it is harder in VTs to develop a vision and a business culture due to the diminished team member interactions (Blackburn *et al.*, 2003), the formalisation of work processes and strategies supporting VT performance (Lurey and Raisinghani, 2001; Martins *et al.*, 2004) and assisting VTs in achieving a consensus on a shared vision, mission and objectives (Holton, 2001) may be a solution.

The third research question – i.e. the identification of the interdependencies and tensions between control mechanisms that managers should take into account when designing MC systems in VTs – has been addressed through the conceptualisation reported in Figure 1.

The interdependencies emerging in our study are those related to the link between outcome-based MBO and cultural controls supporting each other in devolving autonomy and flexibility to employees. Moreover, a strong interdependency between administrative and cultural mechanisms also emerged. As previously outlined, administrative mechanisms are key to enabling the implementation and effectiveness of cultural controls in virtual settings. However, the massive adoption of administrative controls may create tensions with other cultural and PM mechanisms. This occurs because the introduction of rules and procedures – such as starting time and frequent compulsory meetings – may hinder the effectiveness of cultural controls and create tension within the MC system, thus reducing the perceived autonomy and flexibility pursued by outcome-based MBO. The management of this tension may therefore be addressed by "orchestrating" the MC elements (van der Kolk *et al.*, 2020).

As a result, the framework reported in Figure 1 suggests that in order to manage tension between control mechanisms, the newly introduced administrative controls should mainly be those addressing the facilitation of the use of cultural controls such as virtual socialisation and training. Otherwise, excessively strengthening administrative controls may produce substitutive effects (Grabner and Moers, 2013) with regard to PM controls – by limiting the autonomy and flexibility sought through the introduction of outcome-based measures – and with regard to business culture and trust – which, as reported by Bisbe and Sivabalan (2017), may have a controversial relationship with controls.

6. Conclusions

This paper aimed to cover the topic of MC in VTs, which has not yet been fully addressed by the extant literature. To achieve this aim, the research took advantage of the natural experiment provided by the mass transition from face-to-face teams to virtual ones due to the COVID-19 pandemic. The adoption of the holistic perspective in conceiving MC allowed the authors to provide a comprehensive view of the transitional changes characterising the implementation of remote working. In this sense, the article contributes to the extant literature that is mainly concerned with how single control mechanisms (or single typologies of controls) relate to each other or to other organisational variables (e.g. performance, motivation, trust).

At the theory level, our findings add multiple contributions to current debates on control in VTs. First, it identifies and analyses the drivers of MC change when switching from face-to-face teams to VTs. Accordingly, it also reports the suggested solutions that the interviewed managers adopted to cope with these. Second, the article directly addresses the key paradox of control in VTs; that is, the need for a strong organisational culture and the lack of a cultural mechanism to develop and transfer it to team members. Our findings clarify the renewed role and functioning of cultural controls in VTs. The results suggest that administrative controls may support cultural ones both in enabling and complementing them to develop and spread organisational culture and trust among team members and with managers. Last, the article conceptualises the functioning of MC in VTs by identifying the mechanisms that often characterise the package/system of control and the interdependencies and tensions between them. As such, the research suggests the need to adopt a holistic view of MC when dealing with this topic. This finding, although well debated in the MC literature (Malmi and Brown, 2008; Merchant and Otley, 2020), has not yet been discussed in VT settings and, to the best of the authors' knowledge, previous research on control in VTs has also neglected this issue. However, this could be even more relevant when studying MC change in virtual settings, as mechanisms impacts are different when switching from face-to-face teams to VTs.

At the practice level, the research provides a long list of insights that managers may take into account to move their team over to a virtual setting. These range from the introduction, removal and adaptation of new control mechanisms to insights on the balancing of the interdependencies and tensions between them.

This work was based on a qualitative analysis conducted through semi-structured interviews with a wide range of managers. The authors acknowledge the relevance of the social and linguistic complexities with regard to the adopted methodology (Alvesson, 2003). The managers involved belong to different kinds of firms operating in different sectors. Moreover, all the managers interviewed, although operating in different countries, are Italians – as such, they all share a similar cultural background. However, the concepts and frameworks derived from the analysis have been formulated aiming at being generally valid and applicable.

Our results, and the outlined limitations, pave the way towards a future research agenda. First of all, future research may further reflect on the conceptual frameworks of MC in VTs here developed. The general frameworks produced may be adapted, for instance, to specific business

conditions and sectors – as for example, early stage firms, public sector organisations, etc. This adaptation may allow for a better understanding and benchmarking of their specificity.

Second, we shall consider that, after the pandemic, different hybrid forms of VTs emerged – ranging from full virtual modes to full face-to-face ones. "Back to normality" dynamics may be explored to understand which experiences and solutions have been maintained after this experience. As such, a second stream of research may focus on how to design, develop (and balance) MC packages/systems in teams operating both virtually and in face-to-face mode. More generally speaking, organisations will be faced with the challenge of how to seek a balance between virtual and face-to-face working modes; and MC studies can contribute to this debate. Although this research offers potential interesting insights on which control mechanisms may be effective in presence and which in remote mode, future research is needed to advance knowledge in this area.

Third, even in teams operating in face-to-face mode, the introduction of new processes and technologies that happened during the COVID-19 pandemic may have created new opportunities to foster MC functions that should be further explored. These processes and technologies may contribute in increase control efficiency (e.g. reduction in travels or real estate costs), but their impact in terms of effectiveness (i.e. their ability to guide individual behaviours towards organisational goals) needs to be carefully assessed through longitudinal and comparative studies.

Fourth, the analysis of performance results in terms of the organisational climate or the financial and competitive results could provide additional evidence and important feedback on the design and implementation of effective MC packages/systems in virtual and hybrid settings. Work–life balance, employees satisfaction, self-actualisation, are factors significantly influenced by the working mode and by the way in which MC is exercised. Studies aimed at understanding the relationship between MC arrangements and these variables may significantly contribute to this stream of the literature, as well as studies linking MC design and financial or other performance results. Although extant literature has already focused on the impact of specific controls on performance, future studies could adopt the holistic approach here suggested.

Fifth, focussing on cultural control, an interesting stream of research may focus on the different effectiveness of cultural mechanisms (e.g. training, socialization, etc.) when they are implemented in presence or in virtual mode. This could result in new ways to exercise cultural control in organisations. In the current and future scenarios, manager would be asked to choose when to opt for a virtual cultural control, and when to opt for a face-to-face one – as for instance some training may be effectively delivered in virtual mode, some training needs to be delivered in presence. This may also depends on the employee culture – e.g. younger generation may be keener to virtual settings making virtual cultural control more effective. Further research in this area can enhance our understanding in this regard.

Finally, at the methodological level, other research may consider running the analysis involving team members (and not exclusively managers). Moreover, we believe that interventionist approaches and ethnography are suitable approaches to adopt an internal perspective of MC change in VT implementation, and that longitudinal studies may provide long-term feedback on the efficiency and effectiveness of designed solutions.

Note

1. Control mechanisms are defined as all the devices and systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organisation's objectives and strategies.

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Appendix. Interview guide
Management control in virtual teams

Research objective
This questionnaire will be used in a set of interviews that will be carried out to draft a scientific article.

With the outbreak of the COVID-19 pandemic, many organizations have been called to review the way their managers and employees work, allowing them to work remotely. This decision, imposed by environmental circumstances, called managers at various levels to face the challenge of coordinating and monitoring the work of staff remotely.

The objective of the research is to understand which control mechanisms [1] are used to direct and coordinate the staff who are faced with the challenge of working remotely.

In order to address the research objective, we will interview a large number of managers of companies who are facing the challenge of coordinating and controlling their teams in remote mode.

NB. The answers provided will be treated with the utmost confidentiality and ensure the anonymity of the interviewees.

Questions

Company information

Establishment year:

Industry sector (branch):

Number of employees (> 250; > 50; > 10):

Turnover (> € 50 m; > € 10 m; > € 2 m):

Registered office (Country):

Multinational (yes / no):

Information about the manager

Position:

Background:

No. of coordinated personal units:

Preliminary questions

Before COVID-19, were there units of personnel working remotely?

How many days a week?

How many units of personnel were working remotely during the lock-down phase?

How many units of staff are working remotely today?

How has the relationship with the coordinated staff who now work remotely changed?

Questions on management control

What challenges has (and is entailing) coordinating and monitoring remote teams' work?

What opportunities do you see with reference to managerial control of virtual team?

What managerial control mechanisms were used before the COVID-19 emergency? How do these mechanisms interact with each other? *Describe the organization (and team) management control system.*

What managerial control mechanisms were used during the lock-down? How do these mechanisms interact with each other? *Describe the organization (and team) management control system.*

What managerial control mechanisms are used now? How do these mechanisms interact with each other? *Describe the organization (and team) management control system.*

What interventions do you consider necessary to improve management control in the virtual environment?

With reference to the single pre-existing mechanisms that continue to be used, is there perceived a different effectiveness compared to when they were used with face-to-face teams?

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