

Packages of management control systems, entrepreneurial orientation, and performance in Brazilian startups

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Abstract

Purpose - This study seeks to understand the relationship between the elements of a startup firms' management control system (MCS) package, its entrepreneurial orientation (EO) and firm performance.

Design/methodology/approach - We collected survey data from a sample of 100 Brazilian startups who had exited technology-based parks and incubators. We used two data analysis techniques: partial least squares structural equation modeling (PLS-SEM) and fuzzy-set qualitative comparative analysis (fsQCA).

Findings - The findings show that cultural and planning controls were the only two MCS elements that were included in all high-performing startup firms' MCS packages. We also found that EO has a positive influence on firm performance through the MCS package.

Originality - Using fsQCA and PLS-SEM we were able to better understand the important role that MCS package adoption has on a startups' performance and provide new evidence regarding the interface between MCS and EO. This extends our understanding of the importance that cultural and planning controls have in an MCS package to support startup performance.

Research implications - Our mixed-method approach allowed for a holistic view of the analyzed phenomenon. PLS-SEM analysis was applied to the symmetric relationships between the proposed relationships while fsQCA was used to analyze the asymmetric combinations between EO dimensions and MCS package elements which promoted high firm performance.

Practical implications - We show how different combinations of MCS elements form a package, mediating EO which can enable high performance.

Keywords Management control system, MCS Package, Entrepreneurial orientation, Performance, Startup, Cultural control, Planning control, Survey, fsQCA, Brazil

Paper type Research paper

1 Introduction

Examining management control system (MCS) design is integral to understanding how management seeks to achieve organizational objectives and goals (Janka, 2021; Jukka and Pellinen, 2020). Adopting and using MCS in startups is an important area of research because these firms need to quickly develop these systems to help them survive in a highly competitive environment (Davila *et al.*, 2015; Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Pavlatos, 2021). It has been argued that MCS elements can be combined to form different packages of MCS (Otley, 1980; Malmi and Brown, 2008), which has been demonstrated to be important for entrepreneurial companies (Akroyd *et al.*, 2019). Research has also shown that there are multiple and equally effective ways for an organization to combine MCS elements in the same strategic context. This is known as equifinality (Bedford *et al.*, 2016) and has been argued to help improve organizational performance (Davila and Foster, 2005; Bedford, 2015; Cosenz and Noto, 2015). The MCS package¹ concept has been used to understand how a number of different control system elements (cultural, planning, cybernetic, rewards & compensation, and administrative controls) work together to enable alignment between individual activities and organizational goals (Otley, 1980; Malmi and Brown, 2008; Grabner and Moers, 2013; Bedford *et al.*, 2016; O’Grady and Akroyd, 2016).

In this study, we contribute to this stream of research by examining the different MCS packages high-performing startups have adopted, as well as understanding the effect that the interface between a startup firm’s entrepreneurial orientation (EO) and its MCS package has on startup firms’ performance. A firm’s EO has been shown to be an important organizational attribute (Wales *et al.*, 2020) encompassing the innovativeness, proactiveness, and risk-taking behavior of startups (Miller, 1983; Covin and Slevin, 1989). While EO has been shown to have a direct influence on firm performance (e.g., Shirokova *et al.*, 2016; Migliori *et al.*, 2019; Vaznyte and Andries, 2019; Basco *et al.*, 2020; Galbreath *et al.*, 2020), it has also been argued to affect adoption and use of MCS (Li *et al.*, 2006; Bisbe and Malagueño, 2015; Daciê *et al.*, 2017). This study addresses how EO and MCS influence startup performance by examining two research questions:

RQ1. Does EO influence the adoption of an MCS package and performance in startup firms?

¹ We use the term ‘MCS package’ to denote a management control system that includes “a loosely integrated set of mechanisms that operate independently” (Merchant and Otley, 2020, p. 2)

RQ2. What is the relationship between combinations of EO dimensions and MCS elements in high performing startup firms?

To examine these research questions, we collected survey data from a sample of 100 Brazilian startups who exited technology-based parks and incubators, which belong to the Brazilian innovation environment, to promote cooperation and set a national movement for innovative entrepreneurship (Plonski, 2016). This entrepreneurial ecosystem enables a creative and innovative environment for startups (Latorre *et al.*, 2017). Moreover, Technology-based parks and incubators help these companies develop their management systems (Phillips, 2002; Davila, 2019).

It has been argued that the adoption of MCS package elements differs according to the growth and maturity phases of startups. For example, startups often begin by adopting informal cultural controls and then incorporate other controls as they grow (Strauss *et al.*, 2013; Akroyd and Kober, 2020). However, it is not yet clear which elements of the MCS package support a startup firm's performance after they exit a technology park/incubator.

Two techniques were adopted for data analysis: partial least squares structural equation modeling (PLS-SEM) is used to answer RQ1 and fuzzy-set qualitative comparative analysis (fsQCA) is used to answer RQ2. This mixed-method approach allows for a holistic view of the analyzed phenomenon through a complementary explanatory design (Johnson and Onwuegbuzie, 2004). PLS-SEM analysis was applied to the symmetric causal relationships between the proposed relationships. FsQCA was used to analyze the asymmetric causal combinations between EO dimensions and MCS package elements to promote a high level of performance. FsQCA enables us to see how different combinations of MCS elements form a package, resulting in high organizational performance, by considering the complementarity/substitutability between MCS elements (Bedford and Sandelin, 2015; Bedford *et al.*, 2016; Bedford, 2020) and providing new ways to identify the multidimensional profile of EO (Covin and Wales, 2019).

Our findings demonstrate that cultural and planning controls acted in a complementary way as they were the only two MCS elements that were included in all high-performing startup firms' MCS packages. We also found that EO dimensions influence the adoption of the MCS package, and also indirectly influences performance through partial MCS package mediation. Four causal combinations were found between EO interface dimensions and MCS package elements accountable for promoting high startup performance. FsQCA results complemented

the PLS-SEM findings by exploring the aforementioned symmetrical and asymmetric relationships and reinforced the important role of MCS package adoption by startups.

This study presents a number of theoretical contributions by providing new evidence on the interface between EO dimensions and the MCS elements that comprise a package in startup firms. First, the study contributes to the MCS as a package literature, showing several paths that lead to the same outcome (equifinality) through the use of fsQCA analysis (Bedford *et al.*, 2016; Bedford, 2020). Second, the study contributes to the literature by clarifying our understanding of the interface between the dimensions of EO and MCS elements (Li *et al.*, 2006; Bisbe and Malagueño, 2015; Daciê *et al.*, 2017). Third, traditionally, studies have explored contextual factors that lead to the adoption of MCS in startup firms, such as strategy (Davila *et al.*, 2015; Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Pavlatos, 2021; Pavlatos and Kostakis, 2021), structure (Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Pavlatos, 2021), and environment (Samagaio *et al.*, 2018; Pavlatos, 2021; Pavlatos and Kostakis, 2021). In this study we contribute to this line of research by identifying another organizational attribute, EO, which leads to the adoption of the MCS in startups. Furthermore, the study contributes by using the MCS package concept (Otley, 1980; Malmi and Brown, 2008), which enables us to better understand how MCS elements interact with each other to form different packages that lead to high performance of startups, based on the premise of equifinality (Bedford and Sandelin, 2015), which argues that there are many different ways that organizations can achieve success.

This study also contributes to our understanding of the practices of the managers/founders of startups by highlighting the relevance of the adoption of cultural and planning controls in an MCS package and by showing the relevance of EO, which enables startup firms to achieve higher levels of performance. Our findings can also be useful for managers of technology parks and incubators as it presents examples of the EO dimensions and MCS elements necessary to boost startup success and exit rates, which would enable them to help more startup firms. Furthermore, our findings are useful for policy makers and investors who are using managerial and financial information to evaluate startups and distribute funding.

The remainder of this paper is organized as follows. Section 2 introduces the theoretical framework and develops our hypotheses. Section 3 describes our survey methodology and measurement of the variables. Section 4 presents the data analysis. Section 5 discusses our findings and concludes the paper by highlighting our contributions, research limitations, and avenues for future research.

2 Theoretical framework

2.1 MCS package in startups

We know that combinations of MCS “operate as a package of interrelated mechanisms” (Bedford and Malmi, 2015, p. 1) to promote information for managerial decision-making to enable goal congruence (Bedford and Sandelin, 2015). These MCS packages can include a number of MCS elements, including cultural, planning, cybernetic, rewards & compensation, and administrative controls (Malmi and Brown, 2008). Studies on the design and use of MCS in startups are relatively recent in the literature (Davila *et al.*, 2015; Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Pavlatos, 2021) and to our knowledge have not used the MCS package concept.

In contrast to mature organizations, startups are formed by people gathered together to create new businesses (Davila, 2019), which can bring new ideals and technologies to the market (Bikse *et al.*, 2018). The founders of these companies can imprint their MCS, which has been shown to have positive influence on organizational outcomes (Akroyd and Kober, 2020). However, many startups, do not survive (Cantamessa *et al.*, 2018), as they face organizational and managerial challenges (Davila *et al.*, 2015).

It has been argued that combinations of MCS elements can have a positive effect on an organization’s performance (Davila and Foster, 2005; Cosenz and Noto, 2015; Bedford, 2015). However, studies have also demonstrated that organizational context can impact the relationship between MCS elements and organizational performance. For example, the country where the startup is based and the CEO’ beliefs about planning potentially influences the use of financial MCS such as budgets, which has been argued to affect the performance of startups (Pavlatos and Kostakis, 2021). While some startups have been shown to adopt a number of formal MCS elements (Lin *et al.*, 2017), others do not and instead rely on informal controls (Davila *et al.*, 2015). This shows that understanding the context impacting the adoption of an MCS package is critical (Otley, 2016). Incubators and technology parks are unique ecosystems that can significantly contribute to our understanding of the adoption of MCS packages by startups (Davila, 2019). These organizations are an important factor that can have a positive effect on the adoption of an MCS package within a startup firm, which can improve their organizational performance. For this reason, we hypothesize that:

H₁: The adoption of MCS packages by startup firms is positively associated with firm performance.

2.2 Entrepreneurial orientation

EO is among the most studied topics in management research (Wales *et al.*, 2011; Martens *et al.*, 2016; Wales, 2016; Covin and Wales, 2019; Wales *et al.*, 2019). This construct includes innovativeness, proactiveness, and risk-taking (Miller, 1983; Covin and Slevin, 1989) as organizational attributes derived from top management styles, organizational element combinations, and new entry initiatives (Wales *et al.*, 2020). Basically, EO is “the most fundamental manifestation level of entrepreneurship as organizational attribute” (Covin and Wales, 2019, p. 4).

Previous EO literature commonly explores organizational attitudes of innovativeness, risk-taking, and proactiveness and the association with other organizational variables (Hernández-Perlines *et al.*, 2019; Basco *et al.*, 2020). Innovativeness is a creative process potentially generating new ideas and innovations (Miller and Friesen, 1983; Lumpkin and Dess, 1996). Risk-taking involves the implementation of actions in search of potential profits, but with no probable expectation of success (Miller, 1983; Lumpkin and Dess, 1996). Proactiveness involved launching new products and services on the market before competing companies (Covin and Slevin, 1989; Rigtering *et al.*, 2017).

Although both young and established firms can present different EO positions relative to performance (Messersmith and Wales, 2013; Palmer *et al.*, 2019), the literature finds evidence that EO has a positive influence on firm performance (Shirokova *et al.*, 2016; Basco *et al.*, 2020; Galbreath *et al.*, 2020). However, a gap exists in the literature on the importance of EO features in startups (Kee and Rahman, 2018) with evidence indicating that it can boost their performance in certain contexts (Lazzarotti *et al.*, 2015; Migliori *et al.*, 2019; Vaznyte and Andries, 2019). The literature suggests that several organizational attributes (e.g. strategy, resources and culture) and characteristics (e.g. environment and industry) that can shape the relationship of EO with performance (Lumpkin and Dess, 1996), which can differ for companies from different countries (Basco *et al.*, 2020) and with different market orientations (Migliori *et al.*, 2019). Thus, evidence for new contexts, such as startup firms, is needed to advance EO theory (Wales, 2016; Wales *et al.*, 2019).

We know from the management accounting literature that several factors influence the adoption of MCS by startups (Davila and Foster, 2005; Davila *et al.*, 2009). Based on organizational attributes (Covin and Wales, 2019), evidence suggests that EO can be important for the adoption of MCS elements (Daciê *et al.*, 2017). This is because EO is associated with strategic formulation in organizations (Amit *et al.*, 2000), as it can influence efficiency, growth,

and innovation strategies (Callaway and Jagani, 2015). It thus has the potential to shape MCS. It has also been noted that companies with different EO levels apply different MCS to their innovation processes (Bisbe and Malagueño, 2015). Evidence also indicates that EO affects personnel control (Li *et al.*, 2006). Since innovativeness, proactiveness, and risk-taking behavior (Miller, 1983; Covin and Slevin, 1989) are organizational attributes stemming from founders/managers' behavior, such an attitude could likely precede MCS adoption and help decision-making and allocation of resources and efforts (Davila *et al.*, 2015). Therefore, an organization's EO stance could influence adoption of MCS elements to form different packages. We thus hypothesize that:

H_{2A}: Entrepreneurial orientation in startup firms is positively associated with firm performance.

H_{2B}: Entrepreneurial orientation is associated with a package of MCS elements in startup firms.

2.3 Mediating role of an MCS Package

The relationship between EO and performance presents specific particularities for both young and mature companies (Messersmith and Wales, 2013; Palmer *et al.*, 2019). It has been argued that several mechanisms may have an indirect effect on this relationship (Lumpkin and Dess, 1996; Hughes and Morgan, 2007). Research has also shown that the MCS package being used may be one of the mechanisms responsible for the mediation between EO and startup performance, as an MCS package can be shaped by EO (Li *et al.*, 2006; Bisbe and Malagueño, 2015; Daciê *et al.*, 2017), which can, simultaneously, boost performance (Davila and Foster, 2005; Cosenz and Noto, 2015; Bedford, 2015).

Al-Dhaafri and Al-Swidi (2014) show that enterprise resource planning systems can mediate EO and performance association. In addition, Daciê *et al.* (2017) found there were direct effects of EO on MCS use and firm performance as well as on performance through an MCS. Thus, there is reason to believe that the posture of startups, in relation to the EO dimensions of innovativeness, risk-taking, and proactiveness (Miller, 1983; Covin and Slevin, 1989), and their relationship with performance, is facilitated by an MCS package, which helps organizations to promote goal congruence to achieve the desired results (Malmi and Brown, 2008). Therefore, evidence suggests that EO indirectly influences performance, but can also be mediated by the MCS package. This leads us to the following hypothesis:

H3: The elements included in a package of MCS mediates the relationship between entrepreneurial orientation and startup firm performance.

Based on the literature review and the hypotheses development, Figure 1 demonstrates the direct (solid arrows) and indirect (dashed arrow) relationships between the research constructs. Additionally, the model includes two control variables: firm age and sector.

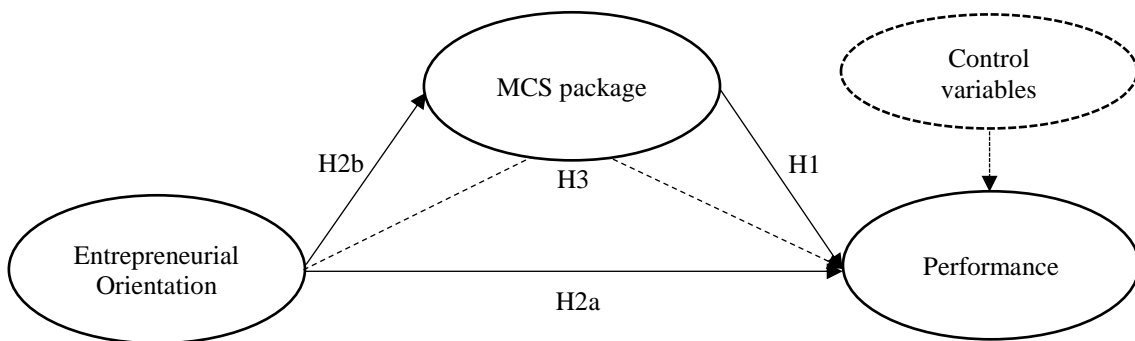


Figure 1. Conceptual model.

3 Methodology

3.1 Data collection

The study population comprises startups that exited 70 different Brazilian technology-based incubators or parks, which are important innovation ecosystems capable of assisting startup maturation (Latorre *et al.*, 2017). The list of technology-based incubators or parks and respective startups was accessed through the National Association of Entities Promoting Innovative Enterprises (Anprotec), resulting in a population of 794 startups. Anprotec was created in 1987, and it has since been directly involved in the development of Brazilian technology-based incubators or parks (Anprotec, 2021). Incubators and parks in Brazil are relevant social and economic development drivers, similar to that in other countries (Plonski, 2016). Thus, startups acquire and exchange knowledge during the incubation period, which is crucial for their survival in the market after they exit (Phillips, 2002; Vick *et al.*, 2013).

We followed the recommendations of Dillman *et al.* (2014) when conducting the survey questionnaire. For example, we included a cover letter and a personalized contact for each organization. In addition, we pretested the questionnaire with academics (two professors and three master's students in the area of management control) and managers (two startup managers and one manager from a large organization). The survey was sent to managers by e-mail and

through social media (e.g. LinkedIn), from July to October 2019. In total, 100 startups completed the survey; no missing data or possible outliers were found through our exploratory analyses. The sample size (n=100) and response rate (12.59%) are comparable with those of similar studies (Samagaio *et al.*, 2018; Crespo *et al.*, 2019). Of the sample, 59% of the companies had exited an incubator or park within the last 5 years (2015-2019), while 68% of them were in the service sector, 2% in the commerce sector, and 30% of them from various industries, predominantly technology or engineering. At least 70% of respondents were company owners, 91% were senior executives, and 64% had at least one post-graduation degree.

3.2 Measurements

A 5-point Likert scale was used in our survey instrument, according to which EO was categorized as 1 = never; 5 = always, and MCS package and performance were categorized as 1 = strongly disagree; 5 = strongly agree. EO was measured as a second-order construct, it had 9 items based on Miller (1983) and Lumpkin and Dess (1996) and validated in the Brazilian context by Lazzarotti *et al.* (2015). They encompassed innovativeness (three items), risk-taking (three items), and proactive (three items).

The MCS package is also a second-order construct based on 21 items developed and validated by Altoé *et al.* (2018), and it was based on Malmi and Brown (2008). It comprised cultural control (three items), planning (five items), cybernetic control (five items), rewards & compensation (three items), and administrative control (five items). Performance was measured based on four items adopted from King *et al.* (2010) and Crespo *et al.* (2019). It consisted of a metric based on respondents' self-perception, which is compared to outcomes from the last 3 years. Such a method of quantifying performance has been widely accepted in the management literature (Lazzarotti *et al.*, 2015; Crespo *et al.*, 2019).

Two control variables were used in the study: firm age and sector. Firm age is its time in the market after its exit from the technology-based incubator or park. Firm age is a binary variable (≤ 5 years and > 6 years). Moreover, industry sector is a binary variable (commerce/services and industry). The management and accounting literatures highlight that a firm's age and the industry sector are important control variables (Bedford *et al.*, 2019; Guenther and Heinicke, 2019; Kreilkamp *et al.*, 2021; Scagnelli *et al.*, 2019).

3.3 Analysis procedure

Data were analyzed through structural equation modeling based on partial least squares (PLS-SEM) and fuzzy-set qualitative comparative analysis (fsQCA). Previous studies on MCS (Bedford *et al.*, 2016; Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Bedford, 2020; Frare and Beuren, 2021) and EO (Alonso-Dos-Santos and Llanos-Contreras, 2019; Kollmann *et al.*, 2021) have demonstrated that the use of regression techniques in combination with fsQCA can provide complementary results based on the symmetric analytical properties of PLS-SEM and asymmetric analytical properties of fsQCA. Thus, the combined use of quantitative PLS-SEM and qualitative fsQCA techniques allows a broader view of the phenomenon (Venkatesh *et al.*, 2013; Bedford, 2020) in addition to a complementary explanatory design (Johnson and Onwuegbuzie, 2004).

PLS-SEM was analyzed using SmartPLS software (3.0) (Ringle *et al.*, 2015), which allows for the estimation of complex causal models with multiple dependent and independent, higher-order constructs, mediating variables, and control variables (Hair *et al.*, 2017). PLS-SEM is recommended for limited sample sizes, is robust for non-normal data, and it is widely used in management and business research (Hair *et al.*, 2019). MCS research also commonly uses PLS-SEM (Rezania *et al.*, 2016; Crespo *et al.*, 2019; Kennedy and Widener, 2019).

FsQCA was performed in fsQCA 3.0 (Ragin, 2008), which assesses holistic interactions resulting in different configurations accounting for the success of the outcome (Fiss, 2007). FsQCA solutions promote equifinality by finding the causal conditions leading to the same result (Rihoux and Ragin, 2008). Previous studies have revealed the benefits of using fsQCA in MCS research (Bedford *et al.*, 2016; Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Frare and Beuren, 2021). Moreover, it has been argued that using fsQCA to explore MCS packages is necessary for understanding MCS combinations better (Bedford, 2020). Thus, fsQCA was used to identify the MCS package element combinations (first-order) and the EO dimensions (first-order) accounting for startups' high performance.

Bedford (2020) has recently called for the examination of combinations of MCS elements using fsQCA in order to improve our knowledge of MCS packages. This is important as we need to better understand how different MCS combinations form packages of MCS which can lead to the same outcome (Bedford *et al.*, 2016). Therefore, fsQCA allows us to analyze whether individual conditions are necessary and whether combinations of conditions are sufficient to achieve a given result (Bedford and Sandelin, 2015; Bedford *et al.*, 2016). The combinations of conditions that appear in all solutions for the occurrence of a given result

suggest complementarity, while the conditions that differ represent substitutability (Milgrom and Roberts, 1995; Bedford and Sandelin, 2015). Although the technique does not specify whether conditions are interdependent as described in the theory of Milgrom and Roberts (1995), they “indicate that certain attributes must combine to be sufficient for the outcome to occur; of additive (independent) or interactive (interdependent) associations” (Bedford and Sandelin, 2015, p. 22).

3.4 Common-method bias and non-response bias

Common-method bias (CMB) could be a potential problem as all variables are collected by the same survey—filled out by one respondent (Podsakoff *et al.*, 2003). CMB was tested using ‘Harman’s single-factor test’ (Harman, 1967) to assess the possible existence of this problem (Gomez-Conde *et al.*, 2019; Matsuo *et al.*, 2021). A single factor represented 28.03% of the common variance. This value is below the 50% threshold required, this indicates that CMB is not a problem in our study (Podsakoff *et al.*, 2003).

In contrast, as identifying the non-respondents’ features was not possible, late respondents were assumed to be analogous to non-responders, and non-response bias was assessed by comparing the responses of early and late respondents (Abernethy *et al.*, 2017; Gomez-Conde *et al.*, 2019). Means of items of all constructs between the first and last ten respondents were compared (Mahama and Cheng, 2013); however, no significant differences were found between the groups ($p > 0.05$, two-tailed). Therefore, non-response bias was not an issue (de Harlez and Malagueño, 2016; Nuhu *et al.*, 2019).

4. Data analysis

4.1 PLS-SEM analysis

4.1.1 Measurement model

Type I (reflective-reflective) higher-order constructs were measured through the repeated indicators’ approach (Sarstedt *et al.*, 2019). Previous studies measured EO (Alvarez-Torres *et al.*, 2019; Hernández-Perlines *et al.*, 2020) and MCS packages (Rehman *et al.*, 2020) as second-order Type I. Our second-order measurement model (Table I) evaluation was based on reflective indicator loadings, internal consistency reliability, and convergent and discriminant validity (Hair *et al.*, 2019). The constructs and items (first-order) are shown in Appendix A.

Table I

Measurement model

Constructs	Mean	SD	α	ρ_A	CR	AVE	1	2	3	4	5
1. EO	3.65	0.88	0.795	0.806	0.821	0.607	0.779	0.397	0.645	0.145	0.215
2. MCS package	3.74	0.90	0.919	0.925	0.892	0.626	0.289	0.791	0.494	0.119	0.165
3. Performance	3.78	0.95	0.818	0.818	0.881	0.650	0.524	0.429	0.806	0.159	0.170
4. Firm's age	-	-	-	-	-	-	-0.103	0.028	-0.145	-	0.120
5. Sector	-	-	-	-	-	-	0.196	0.126	0.155	0.120	-

Note 1: Fornell-Larcker criteria values are presented to the left/bottom diagonal, whereas heterotrait-monotrait ratio of correlations (HTMT) criteria values are shown on the right/top diagonal. Diagonal elements in bold are square roots of the average variance extracted (AVE).

Note 2: α = Cronbach's alpha, ρ_A = Dijkstra-Henseler's rho, CR = composite reliability, AVE = average variance extracted.

For all items, the reflective indicator loadings were greater than 0.60, which is said to meet adequacy requirements (Hair *et al.*, 2017). Cronbach's alpha (α), Dijkstra-Henseler's rho (ρ_A), and composite reliability (CR) ranged from 0.70 to 0.95, which indicates internal consistency reliability (Hair *et al.*, 2019). Convergent validity was shown by AVE, which was higher than 0.50 (Hair *et al.*, 2019). Discriminant validity was attested using the heterotrait-monotrait ratio of correlations (HTMT) criterion, which recorded values lower than 0.85 (Hair *et al.*, 2019) and by the Fornell-Larcker criterion, whose square root of AVE (diagonal values in bold) was higher than correlation between latent variables (Hair *et al.*, 2017).

4.1.2 Structural model

The likelihood of multicollinearity in the structural model was evaluated based on the variance inflation factor (VIF), the model's predictive accuracy was calculated based on R^2 , and the model's predictive relevance was assessed based on Stone-Geisser (Q^2) (Hair *et al.*, 2017). Table II presents the hypotheses, paths, beta coefficients (β), t -values, p -values, and confidence intervals (CIs).

Table II

Path analysis

H	Paths	Beta (β)	t -value	p -value	CI [5%; 95%] [†]
H ₁	MCS package → Performance	0.307	3.410	0.001***	[0.152; 0.448]
H _{2A}	EO → Performance	0.413	4.687	0.000***	[0.248; 0.542]
H _{2B}	EO → MCS package	0.289	2.356	0.019**	[0.060; 0.470]
H ₃	EO → MCS package → Performance	0.089	1.667	0.095*	[0.019; 0.195]
-	Firm's age	-0.117	1.354	0.176	[-0.252; 0.031]
-	Sector	0.050	0.547	0.584	[-0.107; 0.192]

Note 1: [†] bias-corrected and accelerated (BCa) BCI; 5,000 subsamples; two-tailed test.

Note 2: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Multicollinearity can likely occur between latent variables when VIF is higher than 3.00 (Hair *et al.*, 2019). The recorded VIFs ranged from 1.000 to 1.145, which implies an absence of multicollinearity. The explained variance of the endogenous variables (R^2) could have been small (2%), medium (13%), or large (26%) (Cohen, 1988). Thus, the MCS R^2 was low to medium (7.4%) and high for performance (34.6%). Q^2 values higher than 0 were acceptable (Hair *et al.*, 2019). Thus, MCS (2.9%) and performance (22.7%) values highlighted the model's predictive relevance.

4.2 *FsQCA analysis*

FsQCA analysis was used in addition to PLS-SEM. It was mainly adopted for exploring the combinations of MCS in different packages and EO dimensions, leading to high startup performance. Three steps were followed to do this, the first stage consisted of calibrating the mean of the constructs between values 0 and 1, the second stage consisted of analyzing the causal conditions necessary to arrive at a certain outcome, while the third stage consisted of analyzing conditions sufficient to promote dependent variable success (Ragin, 2008). Despite all the research on the symmetrical relationship between MCS and other variables, few studies have explored how combinations of MCS elements in a package are used by companies (Bedford and Malmi, 2015; Bedford, 2020). Different combinations can occur in different firm types, due to the dimensions of EO (Covin and Wales, 2019). Therefore, fsQCA can be used to explore EO dimension combinations and MCS package elements to understand what leads to high startup performance.

4.2.1 *Calibration*

Calibration is the first step in an fsQCA analysis. The mean of the constructs (5-point Likert scale) must be calibrated to values between 0 and 1 (Ragin, 2008). According to theoretical knowledge of research constructs (Ragin, 2008) and previous studies (Palmer *et al.*, 2019; Hock-Doepgen *et al.*, 2020), calibration consists of turning original points 5, 3, and 1 into full membership (95%), cross-over (50%), and full non-membership (5%).

4.2.2 *Necessary conditions*

The second stage consists of analyzing the causal conditions necessary for obtaining a certain outcome (Ragin, 2008). Conditions based on consistency higher than 0.90 are necessary, and those between 0.80 and 0.90 are almost always necessary (Ragin, 2000). Based on Table

III, innovativeness is a necessary condition, with proactiveness almost always necessary, while the MCS elements of cultural control, planning control, and reward & compensation are almost always necessary for high startups performance. However, although a condition is always or almost always necessary, it may not be sufficient, depending on combinations with other conditions (Ragin, 2008).

Table III

Necessary conditions			
Second-order	First-order conditions	Consistency	Coverage
EO	Innovativeness	0.912	0.875
	~ Innovativeness	0.293	0.907
	Risk-taking	0.700	0.912
	~ Risk-taking	0.513	0.857
	Proactiveness	0.889	0.900
MCS package	~ Proactiveness	0.330	0.875
	Cultural control	0.864	0.872
	~ Cultural control	0.328	0.875
	Planning	0.891	0.883
	~ Planning	0.325	0.911
	Cybernetic control	0.795	0.921
	~ Cybernetic control	0.420	0.835
	Reward and compensation	0.807	0.871
	~ Reward and compensation	0.384	0.874
	Administrative control	0.777	0.902
	~ Administrative control	0.457	0.908

Note: The tilde (~) before the causal condition represents the condition's absence.

4.2.3 Sufficient conditions

The third stage consists of analyzing the conditions sufficient to promote dependent variable success (Ragin, 2008). Therefore, a truth table with 2^k rows was created, where k is the number of causal conditions, that is, 2^8 rows (Ragin, 2008). The results were analyzed based on the intermediate solution (Table IV), as suggested in the literature (Alonso-Dos-Santos and Llanos-Contreras, 2019; Covin *et al.*, 2020). A consistency threshold above 0.80 (0.944) resulted in four causal combinations (solutions) (Ragin, 2008).

Raw coverage (0.274–0.627) represents the ratio of membership in the outcome, explained by each solution. Unique coverage (0.012–0.020) explains the ratio of cases covered only by the solution. Solution coverage is the ratio of cases explained by the combination of all solutions, that is, 74.7% of cases were explained by the four solutions. All consistencies (0.959–0.999) were higher than the threshold (0.80) and solution consistency was also higher than 0.80

(0.922), this finding demonstrates the adequacy of solutions found through fsQCA (Ragin, 2008).

Table IV

Sufficient conditions for high performance

Conditions	High performance			
	S1	S2	S3	S4
Innovativeness	●	●	●	
Risk-taking			●	⊗
Proactiveness	●		●	●
Cultural control	●	●	●	●
Planning	●	●	●	●
Cybernetic control	●	●		●
Reward and compensation	●	●	⊗	●
Administrative control		●	●	●
Raw coverage	0.627	0.601	0.274	0.405
Unique coverage	0.020	0.017	0.012	0.012
Consistency	0.964	0.959	0.999	0.985
Overall solution coverage	0.747			
Overall solution consistency	0.922			

Note 1: Full black circles (●) indicate causal condition, and white circles with “x” in the center (⊗) indicate causal condition absence. Blank cells represent “do not care”.

Note 2: This table excludes solutions with a unique coverage less than 0.00.

5. Discussion and conclusions

5.1 Discussion of results

The first hypothesis (H₁) suggests that the adoption of an MCS package is positively associated with firm performance. H₁ was confirmed ($\beta = 0.307$; $p < 0.01$), and it corroborated the findings of previous studies (Davila and Foster, 2005; Cosenz and Noto, 2015; Bedford, 2015). This finding highlights the need for entrepreneurial companies to adopt an MCS package (Akroyd *et al.*, 2019) and shows that technology-based parks and incubator environments may have helped the management control adoption process (Davila, 2019). It also suggests that MCS packages may represent a way for startups to face early-stage impairments and survive in the market (Davila *et al.*, 2015; Cantamessa *et al.*, 2018).

The fsQCA analysis showed that cultural control, planning control, and reward & compensation are almost always necessary; however, they are not sufficient by themselves. Therefore, two (S2 and S4) of the four high-performance combinations contained all the MCS package elements. All elements, except administrative control, which is indifferent, was observed in S1, while there was an indifference of cybernetic controls and an absence of rewards & compensation in S3. Cultural control and planning control were the only MCS

elements observed in all solutions, suggesting complementarity (Milgrom and Roberts, 1995; Bedford and Sandelin, 2015) and their importance for startup firm performance.

The presence of cultural control can be understood in relation to the dynamics of new ventures, which cannot easily adopt other MCS if cultural control is not yet embodied by employees (Akroyd *et al.*, 2019). Cultural control is the means of communicating a startups' fundamental values (Malmi and Brown, 2008). It influences employees' motivation and behavior (Heinicke *et al.*, 2016) and is a driver for other organizational changes (Marginson, 2009). Thus, cultural control is an important socialization mechanism for achieving goal congruence (Akroyd and Maguire, 2011; Kennedy and Widener, 2019). The presence of planning controls in all MCS packages allows us to infer that they operate in a complementary way as startups aim to guide employees' behavior to achieve previously established goals (Malmi and Brown, 2008) in order to promote high performance.

The other MCS elements were found in at least three of the four solutions. Cybernetic control and administrative control are present in 3 solutions and indifferent in one. Rewards & compensation are present in 3 solutions and absent in one. This suggests possible substitutability between these elements, depending on combinations with other elements (Milgrom and Roberts, 1995; Bedford and Sandelin, 2015). Bedford *et al.* (2016) reveal that the substitutability of MCS elements differs by strategic context (defenders *vs.* prospectors), and our findings suggest that this substitutability is shaped according to the firm's EO profile. For example, S3 is the only solution that has the presence of risk-taking. In addition to the complementarity of cultural control and planning, only administrative controls are present. This reinforces that the presence of governance and organizational structures, and formalization of policies and procedures (administrative control) is crucial to deal with risk-taking (Rikhardsson *et al.*, 2021), which seems sufficient and does not require the adoption of other MCS elements.

In fact, what we can see is that startups start to adopt these MCS elements according to the perceived need in their birth and growth stages, and these elements start to act in combination with the other elements forming a package of MCS (Akroyd *et al.*, 2019). This is consistent with the idea that cultural controls guide and are supported by the adoption of other controls (Akroyd and Kober, 2020). Overall, our findings have demonstrated that employing elements of the MCS package which then act in combination which each other are effective. We also highlight the existence of more than one combination of MCS elements which are capable of promoting equifinality in relation to organizations' objectives.

The H_{2A} hypothesis proposed that EO is positively associated with firm performance, which was statistically supported ($\beta = 0.413$; $p < 0.01$). This finding corroborated the findings of previous studies (Migliori *et al.*, 2019; Vaznyte and Andries, 2019; Basco *et al.*, 2020; Galbreath *et al.*, 2020). Similar to the results of the fsQCA analysis, innovativeness and proactiveness were always and almost always necessary, respectively. However, none of these conditions was self-sufficient in a singular way. Innovativeness (S1, S2, and S3) and proactiveness (S1, S3, and S4) are present in three of the four solutions; however, innovativeness is indifferent in S4 and proactiveness in S2. Risk-taking, in turn, was observed in S3, absent in S4, and indifferent in S1 and S2. There was at least one EO dimension in all solutions, and only S3 contained all three dimensions. Innovativeness and proactiveness tend to have a stronger impact on performance in small-and medium-sized companies than risk-taking. Thus, different EO combinations can result in high-performance startups, mainly because of innovativeness and/or proactiveness.

The fsQCA analysis highlighted the interface (combinations) between EO dimensions and MCS package elements sufficient to promote high organizational performance. EO dimensions were observed in all four solutions with MCS package elements, and this outcome reinforced the perspective on the importance of the interface between EO and MCS packages (Li *et al.*, 2006; Bisbe and Malagueño, 2015; Daciê *et al.*, 2017). These findings show that different combinations of EO dimensions and different MCS packages can create equifinality and thus enable high performance in startup firms.

H_{2B} argues that EO is positively associated with a package of MCS elements, supporting this hypothesis ($\beta = 0.289$; $p < 0.05$), which is in line with evidence in the literature (Li *et al.*, 2006; Daciê *et al.*, 2017). Thus, the dimensions of EO (innovativeness, proactiveness, and risk-taking) are antecedent to MCS package adoption in startups. Besides EOs associated with an organizations' strategic position (Amit *et al.*, 2000), it also boosts efficiency, growth, and innovation (Callaway and Jagani, 2015), and influences the adoption of management mechanisms essential for market development (Davila *et al.*, 2015). H_{2B}'s confirmation reinforced the idea that behavioral elements play a relevant role in defining MCS packages.

H₃ proposes that the MCS package mediates the relationship between EO and firm performance which was not rejected ($\beta = 0.089$; $p < 0.10$). Thus, in addition to the direct impact of EO on the MCS package, and of such a package on performance, we can infer that EO also has an indirect effect on performance due to the MCS package's mediation. We found a

complementary mediation (partial mediation), given the positive and significant direct and indirect (mediated by the MCS package) effect of EO on performance (Hair *et al.*, 2017).

This finding is corroborated by Daciê *et al.* (2017), who found direct and indirect EO effects on performance based on management mechanisms. Furthermore, this finding supports the expectations of Lumpkin and Dess (1996) as it shows a mediating effect on the relationship between EO and performance. Therefore, the MCS package plays an important role in helping match EO and performance in the startup firm context. This implies that EO, with the existence of certain levels of innovativeness, risk-taking and proactiveness (Miller, 1983), is a critical factor for the adoption of an MCS package in startups, and that this package translates business posture into firm performance. In addition to the overall posture of EO affecting the adoption of the MCS package, the specific combination of its EO dimensions (innovativeness, risk-taking and proactiveness) with certain MCS elements, enables high performance. These different configurations vary according to the context and the profile of a startup, and show us the different paths these firms take to achieve high performance (Fiss, 2007).

5.2 Conclusions

In conclusion we found that the relationship between EO and an MCS package influences startup performance. As EO influenced MCS package adoption it thus plays an important role in the management of startup firms. We also found that the MCS package mediates the relationship between EO and performance. Therefore, the MCS package was able to translate startups' EO into performance, i.e., it facilitates innovativeness, risk-taking and proactiveness to achieve better performance. Our fsQCA results showed that there was a necessary condition (innovativeness) and almost always necessary condition (proactiveness, cultural control, planning control and reward & compensation) to promote high performance in startups, but that they are not sufficient by themselves, just only when combined. Thus, fsQCA showed four solutions capable of promoting equifinality to help achieve high performance. In all solutions, cultural controls and planning were complementary and were always present, which reinforces the importance of these two elements of an MCS package for the success of startup firms. These solutions encompassed the interface between EO dimensions and MCS package elements, highlighting which configurations lead to high startup firm performance.

5.3 Theoretical implications

This study contributes to the literature on MCS adoption by startups (Davila and Foster, 2005, 2007; Davila *et al.*, 2009; Davila *et al.*, 2015; Samagaio *et al.*, 2018; Crespo *et al.*, 2019; Pavlatos, 2021), and provides new evidence regarding the importance of the interface between EO dimensions and MCS elements (Li *et al.*, 2006; Bisbe and Malagueño, 2015; Daciê *et al.*, 2017). It also contributes by reinforcing the importance of having the MCS package acting in balance with “controls working together, interdependently, in a complementary fashion” (Akroyd *et al.*, 2019, p. 1805) and extends this research by showing the different MCS packages that can enable high performance in startup firms. Furthermore, we contribute to the literature on EO and performance (Lumpkin and Dess, 1996) by highlighting how an MCS package acts as a mediating variable necessary to achieve high performance in startup firms. Our fsQCA results corroborated our understanding of equifinality in MCS combinations (Bedford *et al.*, 2016; Bedford, 2020) as it demonstrated the complementarity/substitutability between MCS package elements (Malmi and Brown, 2008). Overall, this study has contributed to explaining the importance of startups adopting an MCS package, by showing how the symmetric (PLS-SEM) and asymmetric (fsQCA) relationships help these entrepreneurial companies to achieve high performance rates.

5.4 Managerial implications

This investigation has managerial implications for entrepreneurial ecosystem actors. First, for entrepreneurs, managers, and startup founders, the results highlight the relevance of having these firms adopt an MCS package which has cultural and planning controls and being concerned with their EO attitudes. Depending on the interface between the dimensions of EO and the elements of the MCS package, different combinations can help startups achieve a high level of performance. Thus, a startups’ management needs to be reflexive of these solutions as they promote equifinality which enables high performance. Finally, technology park/incubator managers should consider managerial knowledge transfer, emphasizing the relevance of cultural and planning controls (observed in all high-performance solutions) and adopt structured policies to make sure that startup firms have these in place before they exit.

5.5 Policy-making implications

Startups can potentially shape our economic future (Walsh and Cunningham, 2016); however, many of them fail to do so and face bankruptcy in their early stages (Cantamessa *et*

al., 2018). Therefore, understanding the dimensions of EO and MCS package elements is useful for policymakers so as to help startup firms manage the context they face, promote better performance, and consequently, achieve successful outcomes. Furthermore, there are many policies that are necessary to support startups, such as the use of managerial and financial information to evaluate companies and distribute funding. There is evidence that external financiers attach considerable importance to startups' financial MCS elements when deciding whether or not to fund those (Schachel *et al.*, 2021). Thus, information about the combinations of MCS packages that are adopted and lead to startups' success is relevant for these decision makers.

5.6 Limitations and future research

This study has some limitations that could be addressed in future research. Being careful in generalizing data is essential, since the sample only included Brazilian startups that have exited from technology-based parks and incubators. Our study does not consider startups that exited from business accelerators, which are a recent ecosystem for supporting new businesses (Del Sarto *et al.*, 2020). More research analyzing the MCS adoption of startups for each entrepreneurial ecosystem (incubator, park, accelerators, etc.) would help us to understand the role of each ecosystem in supporting the formation of a startup's MCS package.

Our study analyzes the elements of the MCS package in startups; however, the data are transversal and do not allow for analysis of causality and temporal evolution. Therefore, a suggestion for further research is to use longitudinal and/or qualitative approaches to improve our understanding of how the MCS package design and implementation process could best support the growth and performance of startups. This would help us to better understand the theory of how different startups adopt and use an MCS package over time (Berg and Madsen, 2020). Furthermore, it would be interesting to examine the evolution of the MCS package elements over time using fsQCA, adding specific proxies to capture temporality (Bedford, 2020).

We measure EO based on three dimensions: innovativeness, proactiveness, and risk-taking. Although these three dimensions form the traditional and predominant approach (Wales *et al.*, 2019), some authors, such as Lumpkin and Dess (1996), have recommend using the two other dimensions - autonomy and competitive aggressiveness, which could be included in future research. Finally, our measure of performance in this study consisted of a self-reported measure

by the respondents. Therefore, future research could include other measures of performance, such as market share or financial measures.

References

- Abernethy, M.A., Bouwens, J. and Kroos, P. (2017), "Organization identity and earnings manipulation", *Accounting, Organizations and Society*, Vol. 58, pp. 1–14.
<http://doi.org/10.1016/j.aos.2017.04.002>
- Akroyd, C. and Kober, R. (2020), "Imprinting founders' blueprints on management control systems", *Management Accounting Research*, Vol. 46, pp. 1-18, 100645.
<http://doi.org/10.1016/j.mar.2019.07.002>
- Akroyd, C., Kober, R. and Li, D. (2019), "The emergence of management controls in an entrepreneurial company", *Accounting & Finance*, Vol. 59 No. 3, pp. 1805–1833.
<http://doi.org/10.1111/acfi.12477>
- Akroyd, C. and Maguire, W. (2011), "The roles of management control in a product development setting", *Qualitative Research in Accounting & Management*, Vol. 8 No. 3, pp. 212-237. <https://doi.org/10.1108/11766091111162061>
- Al-Dhaafri, H.S. and Al-Swidi, A.K. (2014), "The entrepreneurial orientation and the organizational performance: do enterprise resource planning systems have a mediating role? A study on Dubai police", *Asian Social Science*, Vol. 10 No. 2, pp. 257-272.
<http://doi.org/10.5539/ass.v10n2p257>
- Alonso-Dos-Santos, M. and Llanos-Contreras, O. (2019), "Family business performance in a post-disaster scenario: the influence of socioemotional wealth importance and entrepreneurial orientation", *Journal of Business Research*, Vol. 101, pp. 492–498.
<http://doi.org/10.1016/j.jbusres.2018.12.057>
- Altoé, S.M.L., Pacheco, V. and Espejo, M.M.S.B. (2018), "Leadership styles and the use of the management control system: evidences of top managers training level", *Advances in Scientific and Applied Accounting*, Vol. 11 No. 2, pp. 224–245.
<http://doi.org/10.14392/ASAA.2018110203>
- Alvarez-Torres, F.J., Lopez-Torres, G.C. and Schiuma, G. (2019), "Linking entrepreneurial orientation to SMEs' performance", *Management Decision*, Vol. 57 No. 12, pp. 3364–3386.
<http://doi.org/10.1108/MD-11-2018-1234>
- Amit, R., Brigham, K. and Markman, G. (2000), "Entrepreneurial management as strategy", Meyer G.D. and Heppard K. (Eds.), *Entrepreneurship as Strategy: Competing on the Entrepreneurial Edge*, Sage Publications, Newbury Park, CA, pp. 83–100.
- Anprotec. (2021), *About the National Association of Entities Promoting Innovative Enterprises*. Retrieved from: <https://anprotec.org.br/site/sobre/>
- Basco, R., Hernández-Perlines, F. and Rodríguez-García, M. (2020), "The effect of entrepreneurial orientation on firm performance: a multigroup analysis comparing China, Mexico, and Spain", *Journal of Business Research*, Vol. 113, pp. 409–421.
<http://doi.org/10.1016/j.jbusres.2019.09.020>
- Bedford, D.S. (2015), "Management control systems across different modes of innovation: implications for firm performance", *Management Accounting Research*, Vol. 28, pp. 12–30.
<http://doi.org/10.1016/j.mar.2015.04.003>
- Bedford, D.S. (2020), "Conceptual and empirical issues in understanding management control combinations", *Accounting, Organizations and Society*, Vol. 86, pp. 1–8, 101187.
<http://doi.org/10.1016/j.aos.2020.101187>

- Bedford, D.S., Bisbe, J. and Sweeney, B. (2019), "Performance measurement systems as generators of cognitive conflict in ambidextrous firms", *Accounting, Organizations and Society*, Vol. 72, pp. 21–37. <http://doi.org/10.1016/j.aos.2018.05.010>
- Bedford, D.S. and Malmi, T. (2015), "Configurations of control: an exploratory analysis", *Management Accounting Research*, Vol. 27, pp. 2–26. <http://doi.org/10.1016/j.mar.2015.04.002>
- Bedford, D.S., Malmi, T. and Sandelin, M. (2016), "Management control effectiveness and strategy: an empirical analysis of packages and systems", *Accounting, Organizations and Society*, Vol. 51, pp. 12–28. <http://doi.org/10.1016/j.aos.2016.04.002>
- Bedford, D.S. and Sandelin, M. (2015), "Investigating management control configurations using qualitative comparative analysis: an overview and guidelines for application", *Journal of Management Control*, Vol. 26 No. 1, pp. 5–26. <http://doi.org/10.1007/s00187-015-0204-3>
- Berg, T. and Madsen, D.Ø. (2020), "The evolution of a management control package: a retrospective case study", *Journal of Applied Accounting Research*, Vol. 21 No. 4, pp. 763–781. <https://doi.org/10.1108/JAAR-10-2019-0148>
- Bikse, V., Lusena–Ezera, I. and Rivza, B. (2018), "Innovative start-ups: challenges and development opportunities in Latvia", *International Journal of Innovation Science*, Vol. 10 No. 2, pp. 261–273. <http://doi.org/10.1108/IJIS-05-2017-0044>
- Bisbe, J. and Malagueño, R. (2015), "How control systems influence product innovation processes: examining the role of entrepreneurial orientation", *Accounting and Business Research*, Vol. 45 No. 3, pp. 356–386. <http://doi.org/10.1080/00014788.2015.1009870>
- Callaway, S.K. and Jagani, S.B. (2015), "The impact of banks' entrepreneurial orientation on strategic control systems", *American Journal of Business*, Vol. 30 No. 1, pp. 49–71. <http://doi.org/10.1108/AJB-10-2013-0067>
- Cantamessa, M., Gatteschi, V., Perboli, G. and Rosano, M. (2018), "Startups' roads to failure", *Sustainability*, Vol. 10 No. 7, pp. 2346. <http://doi.org/10.3390/su10072346>
- Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, Lawrence Erlbaum Associates, Mahwah.
- Cosenz, F. and Noto, L. (2015), "Combining system dynamics modelling and management control systems to support strategic learning processes in SMEs: a dynamic performance management approach", *Journal of Management Control*, Vol. 26 No. 2–3, pp. 225–248. <http://doi.org/10.1007/s00187-015-0208-z>
- Covin, J.G., Rigtering, J.C., Hughes, M., Kraus, S., Cheng, C.F. and Bouncken, R.B. (2020), "Individual and team entrepreneurial orientation: scale development and configurations for success", *Journal of Business Research*, Vol. 112, pp. 1–12. <http://doi.org/10.1016/j.jbusres.2020.02.023>
- Covin, J.G., Slevin, D.P. (1989), "Strategic management of small firms in hostile and benign environments", *Strategic Management Journal*, Vol. 10 No. 1, pp. 75–87. <http://doi.org/10.1002/smj.4250100107>
- Covin, J.G. and Wales, W.J. (2019), "Crafting high-impact entrepreneurial orientation research: Some suggested guidelines", *Entrepreneurship Theory and Practice*, Vol. 43 No. 1, pp. 3–18. <http://doi.org/10.1177/1042258718773181>
- Crespo, N.F., Rodrigues, R., Samagaio, A. and Silva, G.R. (2019), "The adoption of management control systems by start-ups: internal factors and context as determinants", *Journal of Business Research*, Vol. 101, pp. 875–884. <http://doi.org/10.1016/j.jbusres.2018.11.020>

- Daciê, F.D.P., Espejo, M.M.D.S.B., Gimenez, F.A.P. and Camacho, R.R. (2017), “Are similar ones different? Determinant characteristics of management tool usage within companies sharing the same institutional environment”, *RAUSP Management Journal*, Vol. 52 No. 3, pp. 341–352. <http://doi.org/10.1016/j.rausp.2017.05.006>
- Davila, A. (2019), “Emerging themes in management accounting and control research”, *Spanish Accounting Review*, Vol. 22 No. 1, pp. 1–5. <http://doi.org/10.6018/rcsar.22.1.354371>
- Davila, A. and Foster, G. (2005), “Management accounting systems adoption decisions: evidence and performance implications from early-stage/startup companies”, *The Accounting Review*, Vol. 80 No. 4, pp. 1039–1068. <http://doi.org/10.2308/accr.2005.80.4.1039>
- Davila, A. and Foster, G. (2007), “Management control systems in early-stage startup companies”, *The Accounting Review*, Vol. 82 No. 4, pp. 907–937. <http://doi.org/10.2308/accr.2007.82.4.907>
- Davila, A., Foster, G. and Jia, N. (2015), “The valuation of management control systems in start-up companies: international field-based evidence”, *European Accounting Review*, Vol. 24 No. 2, pp. 207–239. <http://doi.org/10.1080/09638180.2014.965720>
- Davila, A., Foster, G. and Li, M. (2009), “Reasons for management control systems adoption: insights from product development systems choice by early-stage entrepreneurial companies”, *Accounting, Organizations and Society*, Vol. 34 No. 3–4, pp. 322–347. <http://doi.org/10.1016/j.aos.2008.08.002>
- de Harlez, Y. and Malagueño, R. (2016), “Examining the joint effects of strategic priorities, use of management control systems, and personal background on hospital performance”, *Management Accounting Research*, Vol. 30, pp. 2–17. <http://doi.org/10.1016/j.mar.2015.07.001>
- Del Sarto, N., Isabelle, D.A. and Di Minin, A. (2020), “The role of accelerators in firm survival: An fsQCA analysis of Italian startups”, *Technovation*, Vol. 90–91, pp. 1–13, 102102. <http://doi.org/10.1016/j.technovation.2019.102102>
- Dillman, D.A., Smyth, J.D. and Christian, L.M. (2014), *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*. John Wiley and Sons, Hoboken, New Jersey.
- Fiss, P.C. (2007), “A set-theoretic approach to organizational configurations”, *Academy of Management Review*, Vol. 32 No. 4, pp. 1180–1198. <http://doi.org/10.5465/amr.2007.26586092>
- Frare, A.B. and Beuren, I.M. (2021), “Fostering individual creativity in startups: comprehensive performance measurement systems, role clarity and strategic flexibility”, *European Business Review*, Ahead-of-print. <http://doi.org/10.1108/EBR-11-2020-0262>
- Galbreath, J., Lucianetti, L., Thomas, B. and Tisch, D. (2020), “Entrepreneurial orientation and firm performance in Italian firms”, *International Journal of Entrepreneurial Behavior and Research*, Vol. 26 No. 4, pp. 629–646. <http://doi.org/10.1108/IJEBR-07-2019-0457>
- Gomez-Conde, J., Lunkes, R.J. and Rosa, F.S. (2019), “Environmental innovation practices and operational performance”, *Accounting, Auditing & Accountability Journal*, Vol. 32 No. 5, pp. 1325–1357. <http://doi.org/10.1108/AAAJ-01-2018-3327>
- Grabner, I. and Moers, F. (2013), “Management control as a system or a package? Conceptual and empirical issues”, *Accounting, Organizations and Society*, Vol. 38 No. 6-7, pp. 407–419. <http://doi.org/10.1016/j.aos.2013.09.002>
- Guenther, T.W. and Heinicke, A. (2019), “Relationships among types of use, levels of sophistication, and organizational outcomes of performance measurement systems: the crucial role of design choices”, *Management Accounting Research*, Vol. 42, 1–25. <http://doi.org/10.1016/j.mar.2018.07.002>

- Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, Vol. 31 No. 1, pp. 2–24. <http://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J.F., Hult, G.T.M., Ringle, C. and Sarstedt, M. (2017), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*: Second edition. Sage, Los Angeles.
- Harman, H.H. (1967), *Modern Factor Analysis*. The University of Chicago Press, Chicago.
- Heinicke, A., Guenther, T.W. and Widener, S.K. (2016), "An examination of the relationship between the extent of a flexible culture and the levers of control system: the key role of beliefs control", *Management Accounting Research*, Vol. 33, pp. 25–41. <http://doi.org/10.1016/j.mar.2016.03.005>
- Hernández-Perlines, F., Ariza-Montes, A. and Araya-Castillo, L. (2020), "Socioemotional wealth, entrepreneurial orientation and international performance of family firms", *Economic Research-Ekonomska Istraživanja*, Vol. 33 No. 1, pp. 3125–3145. <http://doi.org/10.1080/1331677X.2019.1685398>
- Hernández-Perlines, F., Moreno-García, J. and Yáñez-Araque, B. (2019), "The influence of socioemotional wealth in the entrepreneurial orientation of family businesses", *International Entrepreneurship and Management Journal*, Vol. 15 No. 2, pp. 523–544. <http://doi.org/10.1007/s11365-019-00561-0>
- Hock-Doepgen, M., Clauss, T., Kraus, S. and Cheng, C.F. (2020), "Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs", *Journal of Business Research*, Vol. 130, pp. 683–697. <http://doi.org/10.1016/j.jbusres.2019.12.001>
- Hughes, M. and Morgan, R.E. (2007), "Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth", *Industrial Marketing Management*, Vol. 36 No. 5, pp. 651–661. <http://doi.org/10.1016/j.indmarman.2006.04.003>
- Janka, M. (2021), "Enabling formal MCS design and use: a meta-synthesis of qualitative research", *Journal of Accounting & Organizational Change*, Vol. 17 No. 2, pp. 133–163. <https://doi.org/10.1108/JAOC-01-2019-0002>
- Johnson, R.B. and Onwuegbuzie, A.J. (2004), "Mixed methods research: a research paradigm whose time has come", *Educational Researcher*, Vol. 33 No. 7, pp. 14–26. <http://doi.org/10.3102/0013189X033007014>
- Jukka, T. and Pellinen, J. (2020), "Exploring management control system typologies: an organisation-level view", *Journal of Accounting & Organizational Change*, Vol. 16 No. 3, pp. 427–445. <http://doi.org/10.1108/jaoc-11-2019-0116>
- Kee, D.M.H. and Rahman, N.A. (2018), "Effects of entrepreneurial orientation on start-up success: a gender perspective", *Management Science Letters*, Vol. 8 No. 6, pp. 699–706. <http://doi.org/10.5267/j.msl.2018.4.012>
- Kennedy, F.A. and Widener, S.K. (2019), "Socialization mechanisms and goal congruence", *Accounting, Organizations and Society*, Vol. 76, pp. 32–49. <http://doi.org/10.1016/j.aos.2019.01.004>
- King, R., Clarkson, P.M., and Wallace, S. (2010), "Budgeting practices and performance in small healthcare businesses", *Management Accounting Research*, Vol. 21 No. 1, pp. 40–55. <http://doi.org/10.1016/j.mar.2009.11.002>
- Kollmann, T., Stöckmann, C., Niemand, T., Hensellek, S. and de Cruppe, K. (2021), "A configurational approach to entrepreneurial orientation and cooperation explaining product/service innovation in digital vs. non-digital startups", *Journal of Business Research*, Vol. 125, pp. 508–519. <http://doi.org/10.1016/j.jbusres.2019.09.041>
- Kreilkamp, N., Schmidt, M. and Wöhrmann, A. (2021), "Debiasing as a powerful management accounting tool? Evidence from German firms", *Journal of Accounting & Organizational Change*, Vol. 17 No. 4, pp. 555–582. <http://doi.org/10.1108/JAOC-12-2019-0122>

- Latorre, M.P., Hermoso, R. and Rubio, M.A. (2017), “A novel network-based analysis to measure efficiency in science and technology parks: the ISA framework approach”, *The Journal of Technology Transfer*, Vol. 42 No. 6, pp. 1255–1275.
<http://doi.org/10.1007/s10961-017-9585-9>
- Lazzarotti, F., Silveira, A.L.T., Carvalho, C.E., Rossetto, C.R. and Sychoski, J.C. (2015), “Entrepreneurial orientation: a study of dimensions and its relationship with performance at firms graduating from incubators”, *Revista de Administração Contemporânea*, Vol. 19 No. 6, pp. 673–695. <http://doi.org/10.1590/1982-7849rac20151829>.
- Lin, Y.H., Chen, C.J. and Lin, B.W. (2017), “The influence of strategic control and operational control on new venture performance”, *Management Decision*, Vol. 55 No. 5, pp. 1042–1064.
<http://doi.org/10.1108/MD-07-2015-0324>
- Lumpkin, G.T. and Dess, G.G. (1996), “Clarifying the entrepreneurial orientation construct and linking it to performance”, *Academy of Management Review*, Vol. 21 No. 1, pp. 135–172.
<http://doi.org/10.2307/258632>
- Mahama, H. and Cheng, M.M. (2013). “The effect of managers' enabling perceptions on costing system use, psychological empowerment, and task performance”, *Behavioral Research in Accounting*, Vol. 25 No. 1, pp. 89–114. <https://doi.org/10.2308/bria-50333>
- Malmi, T. and Brown, D.A. (2008), “Management control systems as a package: opportunities, challenges and research directions”, *Management Accounting Research*, Vol. 19 No. 4, pp. 287–300. <http://doi.org/10.1016/j.mar.2008.09.003>
- Marginson, D. (2009), “Value systems as a mechanism for organizational change”, *Journal of Accounting & Organizational Change*, Vol. 5 No. 1, pp. 7–34.
<http://doi.org/10.1108/18325910910932197>
- Martens, C.D.P., Lacerda, F.M., Belfort, A.C., Freitas, H.M.R.D. (2016), “Research on entrepreneurial orientation: current status and future agenda”, *International Journal of Entrepreneurial Behavior and Research*, Vol. 22 No. 4, pp. 556–583.
<http://doi.org/10.1108/IJEER-08-2015-0183>
- Matsuo, M., Matsuo, T. and Arai, K. (2021), “The influence of an interactive use of management control on individual performance: mediating roles of psychological empowerment and proactive behavior”, *Journal of Accounting & Organizational Change*, Vol. 17 No. 2, pp. 263–281. <http://doi.org/10.1108/JAOC-06-2020-0079>
- Merchant, K.A. and Otley, D. (2020), “Beyond the systems versus package debate”, *Accounting, Organizations and Society*, Vol. 86, pp.1–7, 101185.
<https://doi.org/10.1016/j.aos.2020.101185>
- Messersmith, J.G. and Wales, W.J. (2013), “Entrepreneurial orientation and performance in young firms: the role of human resource management”, *International Small Business Journal*, Vol. 31 No. 2, pp. 115–136. <http://doi.org/10.1177/0266242611416141>
- Migliori, S., Pittino, D., Consorti, A. and Lucianetti, L. (2019), “The relationship between entrepreneurial orientation, market orientation and performance in university spin-offs”, *International Entrepreneurship and Management Journal*, Vol. 15 No. 3, pp. 793–814.
<http://doi.org/10.1007/s11365-017-0488-x>
- Milgrom, P. and Roberts, J. (1995), “Complementarities and fit strategy, structure, and organizational change in manufacturing”, *Journal of Accounting and Economics*, Vol. 19 No. 2–3, pp. 179–208. [https://doi.org/10.1016/0165-4101\(94\)00382-F](https://doi.org/10.1016/0165-4101(94)00382-F)
- Miller, D. (1983), “The correlates of entrepreneurship in three types of firms”, *Management Science*, Vol. 29 No. 7, pp. 770–791. <http://doi.org/10.1287/mnsc.29.7.770>
- Miller, D. and Friesen, P.H. (1983), “Strategy-making and environment: the third link”, *Strategic Management Journal*, Vol. 4 No. 3, pp. 221–235.
<https://doi.org/10.1002/smj.4250040304>

- Nuhu, N.A., Baird, K. and Appuhami, R. (2019), "The impact of management control systems on organisational change and performance in the public sector: the role of organisational dynamic capabilities", *Journal of Accounting & Organizational Change*, Vol. 15 No. 3, pp. 473–495. <http://doi.org/10.1108/JAOC-08-2018-0084>
- O'Grady, W. and Akroyd, C. (2016). "The MCS package in a non-budgeting organisation: a case study of Mainfreight", *Qualitative Research in Accounting & Management*, Vol. 13 No. 1, pp. 2-30. <https://doi.org/10.1108/QRAM-09-2014-0056>
- Otley, D.T. (1980). "The contingency theory of management accounting: achievement and prognosis", *Accounting, Organizations and Society*, Vol. 5 No. 4, pp. 413-428 [https://doi.org/10.1016/0361-3682\(80\)90040-9](https://doi.org/10.1016/0361-3682(80)90040-9)
- Otley, D. (2016), "The contingency theory of management accounting and control: 1980–2014", *Management Accounting Research*, Vol. 31, pp. 45–62. <http://doi.org/10.1016/j.mar.2016.02.001>
- Palmer, C., Niemand, T., Stöckmann, C., Kraus, S. and Kailer, N. (2019), "The interplay of entrepreneurial orientation and psychological traits in explaining firm performance", *Journal of Business Research*, Vol. 94, pp. 183–194. <http://doi.org/10.1016/j.jbusres.2017.10.005>
- Pavlatos, O. (2021), "Drivers of management control systems in tourism start-ups firms", *International Journal of Hospitality Management*, Vol. 92, pp. 1-9, 102746. <http://doi.org/10.1016/j.ijhm.2020.102746>
- Pavlatos, O. and Kostakis, H. (2021), "Budgeting in start-up companies: European survey-based evidence", *Advances in Management Accounting*, Vol. 33.
- Phillips, R.G. (2002), "Technology business incubators: how effective as technology transfer mechanisms?", *Technology in Society*, Vol. 24 No. 3, pp. 299–316. [http://doi.org/10.1016/S0160-791X\(02\)00010-6](http://doi.org/10.1016/S0160-791X(02)00010-6)
- Plonski, G.A. (2016), "Innovation habitats for technology startups", Brazil. P. H. Phan, S. A. Mian, and W. Lamine", *Technology Entrepreneurship and Business Incubation: Theory, Practice, Lessons Learned*, pp. 125–150.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903. <http://doi.org/10.1037/0021-9010.88.5.879>
- Ragin, C.C. (2000), *Fuzzy-set social science*. University of Chicago Press, Chicago.
- Ragin, C.C. (2008), *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. University of Chicago Press, Chicago.
- Rehman, S.U., Bhatti, A., Kraus, S. and Ferreira, J.J. (2020), "The role of environmental management control systems for ecological sustainability and sustainable performance", *Management Decision*. Ahead-of-print. <http://doi.org/10.1108/MD-06-2020-0800>
- Rezania, D., Baker, R. and Burga, R. (2016), "Project control: an exploratory study of levers of control in the context of managing projects", *Journal of Accounting & Organizational Change*, Vol. 12 No. 4, pp. 614–635. <http://doi.org/10.1108/JAOC-10-2015-0084>
- Rikhardsson, P., Rohde, C., Christensen, L. and Batt, C.E. (2021), "Management controls and crisis: evidence from the banking sector", *Accounting, Auditing & Accountability Journal*, Vol. 34 No. 4, pp. 757-785. <https://doi.org/10.1108/AAAJ-01-2020-4400>
- Rigtering, J.C., Eggers, F., Kraus, S. and Chang, M.L. (2017), "Entrepreneurial orientation, strategic planning and firm performance: the impact of national cultures", *European Journal of International Management*, Vol. 11 No. 3, pp. 301–324. <http://doi.org/10.1504/EJIM.2017.083872>

- Rihoux, B. and Ragin, C.C. (2008), *Configurational Comparative Methods: Qualitative Comparative Analysis (QCA) and Related Techniques* (v. 51). Sage Publications, Thousand Oaks, California.
- Ringle, C.M., Wende, S. and Becker, J.M. (2015), “SmartPLS 3”, Boenningstedt: SmartPLS GmbH.
- Samagaio, A., Crespo, N.F. and Rodrigues, R. (2018), “Management control systems in high-tech start-ups: an empirical investigation”, *Journal of Business Research*, Vol. 89, pp. 351–360. <http://doi.org/10.1016/j.jbusres.2017.12.028>
- Sarstedt, M., Hair Jr, J.F., Cheah, J.H., Becker, J.M. and Ringle, C.M. (2019), “How to specify, estimate, and validate higher-order constructs in PLS-SEM”, *Australasian Marketing Journal (AMJ)*, Vol. 27 No. 3, pp. 197–211. <http://doi.org/10.1016/j.ausmj.2019.05.003>
- Scagnelli, S., Vasile, L. and Apostolov, M. (2019), “Survival drivers of post-incubated start-ups: The effect of academic governance,” *International Journal of Innovation Management*, Vol. 23 No. 07, pp. 1–20, 1950062. <http://doi.org/10.1142/S1363919619500622>
- Schachel, H., Lachmann, M., Endenich, C. and Breucker, O. (2021), “The importance of management control systems for startup funding – empirical evidence from external financiers”, *Journal of Accounting & Organizational Change*, Ahead-of-print. <https://doi.org/10.1108/JAOC-07-2020-0089>
- Shirokova, G., Bogatyreva, K., Beliaeva, T. and Puffer, S. (2016), “Entrepreneurial orientation and firm performance in different environmental settings”, *Journal of Small Business and Enterprise Development*, Vol. 23 No. 3, pp. 703–727. <http://doi.org/10.1108/JSBED-09-2015-0132>
- Strauss, E.R., Nevries, P. and Weber, J. (2013), “The development of MCS packages–balancing constituents' demands”, *Journal of Accounting & Organizational Change*, Vol. 9 No. 2, pp. 155–187. <http://doi.org/10.1108/18325911311325942>
- Vaznyte, E. and Andries, P. (2019), “Entrepreneurial orientation and start-ups' external financing”, *Journal of Business Venturing*, Vol. 34 No. 3, pp. 439–458. <http://doi.org/10.1016/j.jbusvent.2019.01.006>
- Venkatesh, V., Brown, S.A. and Bala, H. (2013), “Bridging the qualitative-quantitative divide: guidelines for conducting mixed methods research in information systems”, *MIS Quarterly*, Vol. 37 No. 1, pp. 21–54. <http://doi.org/10.25300/MISQ/2013/37.1.02>
- Vick, T.E., Nagano, M.S. and Santos, F.C.A. (2013), “Identifying the information management process and knowledge creation in technology-based companies: a Brazilian comparative case study”, *Knowledge Management Research and Practice*, Vol. 11 No. 3, pp. 278–287. <http://doi.org/10.1057/kmrp.2012.8>
- Wales, W.J. (2016), “Entrepreneurial orientation: a review and synthesis of promising research directions”, *International Small Business Journal*, Vol. 34 No. 1, pp. 3–15. <http://doi.org/10.1177/0266242615613840>
- Wales, W.J., Covin, J.G. and Monsen, E. (2020), “Entrepreneurial orientation: the necessity of a multilevel conceptualization”, *Strategic Entrepreneurship Journal*, Vol. 14 No. 4, pp. 639–660. <http://doi.org/10.1002/sej.1344>
- Wales, W., Gupta, V.K., Marino, L. and Shirokova, G. (2019), “Entrepreneurial orientation: international, global and cross-cultural research”, *International Small Business Journal*, Vol. 37 No. 2, pp. 95–104. <http://doi.org/10.1177/0266242618813423>
- Wales, W., Monsen, E. and McKelvie, A. (2011), “The organizational pervasiveness of entrepreneurial orientation”, *Entrepreneurship Theory and Practice*, Vol. 35 No. 5, pp. 895–923. <http://doi.org/10.1111/j.1540-6520.2011.00451.x>
- Walsh, G.S. and Cunningham J.A. (2016), “Business failure and entrepreneurship: emergence, evolution and future research”, *Foundations and Trends® in Entrepreneurship*, Vol. 12 No. 3, pp. 163–285. <http://doi.org/10.1561/03000000063>

Appendix A. Survey questionnaire

Construct/ Item	Loading
Entrepreneurial orientation	
How intense is your search for entrepreneurial features in your organization?	
Innovativeness (CR= 0.836; AVE= 0.630)	
Investment in research and development (R&D)	0.761
Introduction of new products/services in the last 3 years	0.868
Search for different ways to perform actions and solve problems	0.747
Risk-taking (CR= 0.940; AVE= 0.886)	
Performance in high-risk projects	0.953
Put yourself at risk to explore opportunities	0.930
Making financial loans	a
Proactiveness (CR= 0.818; AVE= 0.602)	
Pioneering in the implementation of products/services/technologies	0.817
Initiatives that cause competitive reactions	0.822
Constant monitoring of customer needs	0.680
Management control system package	
How intensively do you perceive your organization's control characteristics?	
Cultural control (CR= 0.865; AVE= 0.682)	
The organization's beliefs are highlighted	0.819
The organization's values, mission, and vision are emphasized to subordinates	0.848
Organizational symbols demonstrate the prevailing cultural aspects of the organization	0.809
Planning (CR= 0.864; AVE= 0.560)	
In the short-term planning, the objectives of the functional areas are defined	0.729
In short-term planning, the objectives of the functional areas are passed on to employees	0.765
Long-term planning allows for the congruence of standards and goals, aligning objectives in all functional areas	0.809
In the long-term planning, the activities of each subordinate are controlled	0.692
In long-term planning, the activities of all sectors of the organization are controlled	0.741
Cybernetic control (CR= 0.887; AVE= 0.613)	
Performance measurements are used to quantify employees' behavior	0.679
Performance standards or goals are used in the organization	0.875
Feedback processes are adopted by comparing the achieved results to a previously established standard	0.740
Analysis of variations due to feedback is performed	0.794
Subordinates are encouraged to increase their performance by awarding a reward	0.813
Rewards and compensation (CR= 0.894; AVE= 0.738)	
There are ways to measurement on how much employees are focused on the activities they perform	0.874

There are ways measurements about the time spent by employees conducting some activities	0.833
There are ways measurements about the number of individuals involved in the pursuit of organizational goals	0.869
Administrative control (CR= 0.847; AVE= 0.528)	
Performance is always monitored in the company, and employees are obliged to stand for their behavior	0.769
Behavior monitoring is used, employees are required to account for their behavior	0.779
Through an organization chart within the organizational structure, the allocation of subordinates is identified	0.626
There are processes in the company to specify how tasks or behaviors should be performed	0.695
The specification processes about how tasks or behaviors should be performed are adopted and passed on to subordinates	0.752
Performance (CR= 0.881; AVE= 0.650)	
How intense do you perceive performance features in the past 3 years in your organization?	
More competitive	0.832
Is growing faster	0.862
More profitable	0.812
More innovative	0.711

a = Item excluded to fit the model.