The Role of Management Accounting Change in Emerging-market Organizations

zur Erlangung des Grades einer Doktorin

rer. pol.

der Fakultät III - Wirtschaftswissenschaften, Wirtschaftsinformatik und Wirtschaftsrecht der Universität Siegen

vorgelegt von

Nguyen, Huu Dai

Erstgutachter: Prof. Dr. Martin Hiebl

Zweitgutachter: Prof. Dr. Arnd Wiedemann

Datum der Disputation

15.11.2022

Dekan der Fakultät: Prof. Dr. Marc Hassenzahl

To my parents

Nguyễn Hữu Thắng (Father) and Lê Thị Hồng Ngọc (Mother)

Thank you for everything. Without you, I might not be the person I am today

To my wife and child

Phạm Quỳnh Mai (wife) and Nguyễn Minh Trang (daughter)

Thank you for giving me happiness, strength and being the light of my life

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Preface

During my Ph.D. journey, I would like to express my gratitude to several people who have supported and contributed to the completion of my Ph.D.

First and foremost, I owe my highest gratitude to Prof. Dr. Martin Hiebl for his excellent supervision and guidance in my Ph.D. research. Prof. Dr. Martin Hiebl not only gave me valuable advice about doing scientific research but also always supported and put his trust in my abilities. His endless patience, constructive criticism, and empathy contributed greatly to the completion of my doctoral dissertation.

Also, I would like to extend my sincere thanks to my second supervisor, Prof. Dr. Arnd Wiedemann, for contributing helpful comments and suggestions to my Ph.D. dissertation.

I very much appreciate Eva-Maria Grottschreiber and Zhen Li for helping me a lot during my early days in Germany. Besides, I would also like to acknowledge the assistance of Silke Pistor in facilitating and supporting the process of my Ph.D. research.

I would also like to extend my gratitude to my parents-in-law, Prof. Phạm Văn Chương and Mrs. Diệp Thị Dần for helping me to contact Vietnamese organizations as well as data collection for my Ph.D. research. This dissertation would not have been possible without their support and love.

I am indebted to my parents all this life, Dr. Nguyễn Hữu Thắng and Mrs. Lê Thị Hồng Ngọc. No words are enough to describe how fortunate I am to have them in my life. If it weren't for their unconditional love, support and sacrifices, I might not become the person I am today. From my heart, I would like to express my deepest gratitude to my wife, Phạm Quỳnh Mai, for her love, standing by my side, understanding, and sacrifices. Not only does she never give up on me, but she also helps me see that there is always a bright future waiting for us. Especially, I would like to express my deepest love and thanks to my beloved daughter, Nguyễn Minh Trang, for coming into my life. She is a priceless gift, greater than anything I can imagine. She is the only reason that I live in this world. Last but not least, I would like to express my deep appreciation to my sister's family including Nguyễn Ngọc Lê (sister), Nguyễn Văn Hiệu (brother-in-law), Nguyễn Ngọc Hân, and Nguyễn Ngọc Anh (nieces) for support, encouragement, and all of their efforts.

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A. Introduction

Management accounting is an indispensable tool in managing the operations of most organizations. Although there are many different definitions of management accounting in academia, the majority of researchers agree that the primary role of management accounting is to provide information to assist managers in making decisions and controlling (e.g. Malmi and Brown, 2008; Burns *et al*., 2013). In order to provide useful information for organizational decision-making, management accounting includes a variety of available information systems and management accounting techniques such as budgeting, cost management, or strategic planning (Burn *et al*., 2013). However, to date, because there are still many organizations that lack a deep understanding of management accounting, it has a significant impact on the performance and the success of the organizations (Matambele and van der Poll, 2017). In addition, the rapid change in technology, as well as the increasing competitiveness in the market, lead management accounting to change and evolve continuously (Topor *et al*., 2011). Therefore, research on management accounting has become one of the main focuses of a large number of western studies over the past four decades (e.g. Libby and Waterhouse, 1996; Burns and Scapens, 2000; Yazdifar *et al.*, 2008).

Notably, although still limited, the number of studies on management accounting changes in developing countries is also increasingly attracting the interest of management accounting scholars and researchers such as the study of management accounting changes in the former socialist European countries (e.g. Haldma and Laats, 2000); in Eastern Asia (e.g. Hoque and Hopper, 1994, 1997; Yang and Modell, 2015), in Middle East (e.g. Lasyoud *et al.*, 2018) or in Africa (Ndemewah and Hiebl, 2021). These studies indicate that traditional management accounting practices still dominated in developing countries as the adoption of advanced management accounting practices in these countries often faces resistance (e.g., Hopper *et al*., 2009; Lasyoud *et al.*, 2018; Ndemewah and Hiebl, 2021). For instance, the study of Yang and Modell (2015) illustrated how the adoption of shareholder-focused control practices was challenged and resisted by the extant control practices embedded in Maoist ideology and the broader cultural system of Confucianism in a Chinese state-owned enterprise. Similarly, Taylor and Osipenkova (2003) suggest that there was a limitation in adopting advanced management accounting practices in Russia as the managers often focused on the output targets of the central plan set by superior without market and competitors. Furthermore, Hopper *et al.* (2009) and Ndemewah and Hiebl (2021) argue that traditional norms and values, culture, the influence of religion, and colonial legacies are among the main factors hindering the adoption of western management accounting practices in emerging countries. However, to date, there is very limited evidence in emerging countries on how the adoption of advanced management accounting practices can be realized successfully. Hence, research on realizing such management accounting changes in emerging countries is needed when it could facilitate local choices for management accounting techniques that are suitable to their culture and values, in order to reduce poverty and social inequality, and improve quality of life, especially for the most disadvantaged (Hopper *et al.*, 2009).

A similar picture can be found in Vietnam which is one of the fastest-growing countries in the world in which its local organizations are also facing many challenges in applying advanced management accounting techniques in a rapidly changing business environment (Nagirikandalage *et al.*, 2021). As a result, it reduces the operational efficiency of many Vietnamese organizations (e.g. Bui *et al.*, 2020, Nagirikandalage *et al.*, 2021). Therefore, the purpose of this dissertation is to enrich the existing literature on management accounting changes in emerging countries by analyzing the role of management accounting change in Vietnamese organizations. This dissertation consists of three separate papers in which each paper address one aspect of the topic (see Table A1 for the titles, authors, methodologies, contributions, and presentation and submissions histories of the studies).

Titles	Authors	Methodology	Contribution	Presentation and submissions
Individual responses to using management control practices for hybridization: Evidence from an emerging country	Dai Huu Nguyen Martin R. W. Hiebl	Qualitative; Drawing on an institutional logics perspective as well as a longitudinal case study of a public Vietnamese university to examine the individual responses to using management control during the hybridization of public-sector organizations	a) Introducing the notion of "partial hybridization" b) Showing that management controls per se were not contested, but rather the contents and formulae c) Indicating that such compartmentalization remained uncontested, as the measurement and control of traditional institutional logics were left mostly untouched	Published online ahead of print at *International Public Management Journal* (ABS: 3; VHB: B; IF 2020: 3.083) Presented at the 12th Conference on New Directions in Management Accounting in EIASM
Trying to address stretch goals via incentive compensation: evidence from two emerging-market organizations	Martin R. W. Hiebl Dai Huu Nguyen	Qualitative; Drawing on the conceptual insights of stretch proposed by Sitkin *et al.* (2011) as well as in-depth case studies of two organizations to explore the role of incentive compensation in addressing stretch goals	a) Providing evidence that contradicts with some of the propositions put forward by Sitkin *et al.* (2011) b) Suggesting that pressure from external parties may affect the likelihood that organizations adopt stretch goals c) Arguing that apart from recent performance and the level of slack resources, incentive compensation could play an important role in realizing stretch goals	Revise and resubmit after first-round reviews at *Accounting, Auditing and Accounting Journal* (ABS: 3; VHB: B; IF 2020: 4.117)

Table A 1: Overview of the papers included in this dissertation

Titles	Authors	Methodology	Contribution	Presentation and submissions
Integrating a new management accounting routine into a routine cluster: the role of interactions between multiple management accounting routines	Dai Huu Nguyen Martin R. W. Hiebl Martin Quinn	Qualitative; Drawing on the logic complementarities proposed by Kremser and Schreyögg (2016), the literature regarding management accounting complementarities, and an in-depth case study of a Vietnamese private manufacturing company to investigate the role of interaction between multiple management accounting routines in installing a new management accounting routine into a routine cluser.	a) Showing that apart from logic of complementarities suggested by Kremser and Schreyögg (2016), other factors such as the involved actors' "passion for work" and "level of expertise" can affect the integration of new management accounting into a routine cluster b) Suggesting that it is possible to distinguish between cases where complementarity materializes through routines (i) standing side-by-side and not substituting each other, and (ii) routines being intertwined c) Arguing that the integration of the new management accounting routines was stronger in the latter case where the new routine and the existing routine were interwined	Under first-round review at *Qualitative Research in Accounting & Management* (ABS: 2; VHB: B; IF 2020: 1.489)

Table A 2: Overview of the papers included in this dissertation (continued)

In particular, the first paper of this dissertation (*Individual responses to using management control practices for hybridization: Evidence from an emerging country)* sheds light on the responses of different actors to competing logics and how they used management controls to realize or resist hybridization. Researchers and scholars in organizational and management studies around the world are increasingly interested in hybridization when hybrid organizations such as public universities, public hospitals, or community banking that are composed of different institutional logics are often exposed to conflicts related to performing, organizing, or learning (Smith *et al*., 2013). However, most of the current research only focuses on the organizational level in analyzing the responses of organizations to competing logics while there is a lack of studies on individual responses to competing logics and hybridizations. Besides, because there are differences in terms of culture, political and social structure, traditional values, and beliefs, the application of market logics to public organizations in emerging countries can face many obstacles and may lead to resistance (Hopper *et al*., 2009; Hiebl, 2018). Consequently, the first paper has filled these research gaps with the following research question:

RQ 01: How do different actors draw on management accounting practices to realize or resist competing logics during hybridization processes?

The second paper of this dissertation (*Trying to address stretch goals via incentive compensation: evidence from two emerging-market organizations)* will analyze the role of incentive compensation in addressing stretch goals. Characterized by extreme difficulty and extreme novelty, stretch goals are employed by some organizations to boost their performance (e.g. Sitkin *et al*., 2011; Zhang and Jia, 2013). While the majority of recent research is debating the relationship between stretch goals and performance (e.g. Audia *et al.*, 2000; Beilock and Carr, 2005; Fuller and Jensen, 2010; Locke and Latham, 2013), Sitkin *et al*. (2011) propose a theoretical model around recent performance and slack resources as the primary determinants to predict the likelihood that organization will employ stretch goals and when stretch goals will have facilitative or disruptive effects on performance. However, to date, the proposition of Sitkin *et al*. (2011) has not yet been empirically examined in depth. Furthermore, knowledge of how incentive compensation influences the (positive versus negative) effects of stretch goals on performance as well as evidence of the application of stretch goals in emerging countries remains sparse. As a result, the second paper aims to add to the existing management accounting literature by not only examining the proposition of Sitkin *et al*. (2011) but also analyzing the role of incentive compensation in addressing stretch goals in an emerging-country setting. Hence, the research question of the last paper is:

RQ 02: How does incentive compensation influence the facilitative or disruptive effects of stretch goals on performance in an emerging-country setting?

In the last paper (*Integrating a new management accounting routine into a routine cluster: the role of interactions between multiple management accounting routines),* this study analyzes the interaction between two management accounting routines and its effect on the application of a new management accounting routine into a production cluster. Defined as "a repetitive, recognizable pattern of interdependent actions, involving multiple actors" (Feldman and Pentland, 2003, p. 96), an organizational routine enables organizations to foster coordination mechanisms, increase stability and reduce uncertainty in order to achieve their core tasks (e.g. Becker, 2004; Gilson *et al*., 2005). Although an organization is represented by multiple routines (e.g. Thompson, 1967; Kremser and Schreyögg, 2016), a large body of research has focused on single organizational routines and single management accounting routines in isolation (e.g. Perren and Grant, 2000; Quinn, 2011; Quinn and Hiebl, 2018). Kremser and Schreyögg (2016) laid the foundations for the study of interrelated routines and routine clusters in which they defined routine clusters as "multiple, complementary routines, each contributing a partial result to the accomplishment of a common task" (p. 698). In addition, they also proposed the logic of complementarities in which whether or not new routines are accepted in a routine cluster depends a lot on the resulting misfit costs for the cluster as a whole. Although the complementarities of management accounting practices are also supported by a number of quantitative research on management accounting as a package or system (e.g. Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008), there is still very little research on the interaction between multiple management accounting routines in emerging-countries organizations as well as its effect on the integration of a new management accounting routine into a routine cluster. As a result, my research question for the second paper will be as follows:

RQ 03: How does the interaction between multiple management accounting routines affect the integration of a new management accounting routine into a routine cluster?

The dissertation will employ a qualitative methodology to address these main research questions. Using qualitative methodology is appropriate because it often addresses "how" and "why" research questions (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). Furthermore, because the institutional changes associated with management accounting are usually manifested through historical processes, such changes are best analyzed by using inductive techniques (Lee, 1999). Therefore, the methodology of this dissertation will be instrumental case studies. The case studies for this dissertation are based on two Vietnamese organizations. The analyses heavily rely on data collected through extensive interviews and discussions with key actors in both organizations. Some key actors were visited more than once and at different points in time to provide opportunities to ask follow-up questions. Apart from formal interviews, this dissertation also employs informal conversations via electronic mail or social network to gather more information as well as clarify the information obtained from previous interviews. Furthermore, I also enrich the data collected through analysis of internal proprietary documents and publicly available information including annual reports and media.

Specifically, the first paper will draw on the longitudinal case study of a public Vietnamese university called VNUni to investigate the role of management accounting in realizing or resisting hybridization in which I conducted a total of 20 semi-structured interviews from November 2017 to August 2019. The case study used in the third paper will be a private Vietnamese manufacturing company called HouseCo to examine the interaction between two management accounting routines and its effect on the application of a new management accounting into a routine cluster. In this vein, I interviewed 13 key actors at the company's headquarters and factories with a total of 21 semi-structured interviews between 2018 and 2019. For the second paper, I used the data collected from the two case studies in combination to deliver a comparative analysis of two emerging-market organizations in order to study the role of incentive compensation in addressing stretch goals.

The remainder of this dissertation is structured as follows. Chapter 1, 2 and 3 will detail the three papers discussed above. The conclusion of this dissertation with a summary of its main findings will be presented in the final section.

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B. Individual responses to using management control practices for hybridizing public-sector organizations: Evidence from an emerging country

1. Introduction

Hybrid organizations have received an increasing amount of attention from researchers in recent years, particularly from public management, organization, and accounting scholars (Battilana and Dorado, 2010; Grossi *et al.*, 2020b). Such hybrid organizations combine elements from different institutional logics, including public-sector logics and private-sector logics (Davies and Doherty, 2019; Grossi *et al.*, 2017; Johanson and Vakkuri, 2018; Joldersma and Winter, 2002; Pache and Santos, 2013b). They are thus often exposed to contradictions related to performing, organizing, or learning (Smith *et al.*, 2013). The process of moving an organization's focus on one set of institutional logics (e.g. public-sector logics) to a simultaneous focus on multiple institutional logics can be termed hybridization (e.g., Fossestøl et al., 2015; Wiesel and Modell, 2014).

Although a large body of research has focused on the organizational level of analysis to study organizational responses to competing institutional pressures (e.g., Broadbent and Laughlin, 2005; Broadbent *et al.*, 1999; Greenwood *et al.*, 2011; Oliver, 1991; Pache and Santos, 2010; Powell et al., 2019), only a few studies have been concerned with the responses and potential resistance of individual actors within public-sector organizations to competing logics and hybridization (e.g., Dobija *et al.*, 2019; Gebreiter and Hidayah, 2019; Pache and Santos, 2013a). Another stream of literature has focused on management control practices, which are often used by leaders of the respective public-sector organizations for hybridization purposes (Grossi *et al.*, 2017, 2020b). Combining these two streams, more research on the individual responses to the use of management control practices during the hybridization of public-sector organizations is needed (Berry *et al.*, 2009; Grossi *et al.*, 2017, 2020b). Not least, such research is necessary to better assess the viability of management control systems in guiding individual actors towards the simultaneous pursuit of multiple institutional logics.

With this paper, we aim to illuminate how individual actors respond to the usage of management control practices that are used to drive the hybridization of public-sector organizations. While management controls encompass a large array of practices geared towards directing employee behavior (Malmi and Bown, 2008), in our below empirical section, we particularly focus on incentive payments and performance measurement systems – two control practices that are often at the core of an organization's overall management control system (e.g., Grabner and Moers, 2013; Lepori and Montauti, 2020; Malmi and Brown, 2008). In addition to our general research objective, by drawing on the case of an emerging-markets organization, we aim to contribute to extant research on the hybridization of public-sector organizations by offering an emerging-markets view on this theme. Existing case-based evidence on the use of management control practices in hybridizing public-sector organizations has mostly been based on evidence from Australia (e.g., Churchman, 2002; Christopher, 2012; Parker, 2011), Europe (e.g., Broadbent *et al.*, 1991; Busco *et al.*, 2017; Conrath-Hargreaves and Wüstemann, 2019; Dobija *et al.*, 2019; Gebreiter and Hidayah, 2019; Grossi *et al.*, 2020a; Kastberg and Lagström, 2019; Lepori and Montauti, 2020; Powell et al., 2019), and North America (e.g., Roberts, 2004). In turn, emerging-markets evidence on the use of management control practices in hybridizing organizations is largely missing (Grossi *et al.*, 2020b). An analysis of the phenomenon in emerging markets is needed, in part because there are often different political and social structures at play in such countries, in comparison with more developed countries (Hewege, 2012). Many societies in emerging countries are based on traditional norms and values (Damayanthi and Gooneratne, 2017; Hopper *et al.*, 2009), which may be at odds with market-based logics implemented in the hybridization of public-sector organizations in such countries. In line with this notion, there is evidence that introducing western, market-based management control logics into public-sector organizations in emerging countries may lead to significant political resistance (Hiebl, 2018; Hopper *et al.*, 2009), potentially making their hybridization a distinct and particularly challenging endeavor. Therefore, this paper adds to the existing public-sector literature by shedding light on how individual actors responded to management controls during the hybridization of a public-sector organization within an emerging country.

We draw on a longitudinal case study of a public Vietnamese university called VNUni in this paper.[1] Pushed by governmental initiatives to make Vietnamese public universities financially independent from governmental subsidies, VNUni increasingly tried to raise revenues by offering science and technology services to outside organizations. Our case study describes how the leaders of VNUni used management control practices (i.e., performance measurement and incentive payments) to move organizations towards hybridity. However, this endeavor evoked significant resistance from other actors, notably lecturers.

Overall, our study offers four main contributions. First, we introduce the notion of "partial hybridization," which reflects the phenomenon that in a large public organization such as VNUni, not all units may be equally moved towards hybridity. That is, some units may already be more hybridized, while others are less hybridized, which renders the entire public organization partially hybridized. Importantly, our case suggests that such partial hybridization can be a prime reason for individual actors' resistance towards the hybridization of their public organization. At VNUni, partial hybridization could be observed as not all faculties were equally moved towards hybridity, which resulted in feelings of unfair treatment and thus resistance towards hybridization. Second, unlike much prior research on management control

[1] We have changed the name of the university to preserve its anonymity.

in public organizations in emerging countries (e.g., Damayanthi and Gooneratne, 2017; Hopper *et al.*, 2009), our case study indicates that the management controls and compartmentalization strategy per se were not contested, but rather the content of these controls and the formulae used to calculate incentive payments and the internal allocation of funds in VNUni. Our case study also adds to existing evidence on compartmentalization strategies as a response to competing institutional logics (Kastberg and Lagström, 2019; Schäffer *et al.*, 2015). Unlike prior studies, our evidence suggests that such compartmentalization remained uncontested, as the measurement and control of traditional academic performance remained mostly untouched. Third, we highlight the role of organizational leaders as *advocates* (Pache and Santos, 2013a) of hybridization. Our analysis adds to the hybridization literature that the skills and courses of actions of such *advocates* may very much shape the response of other actors to using management controls for hybridization, which has so far been an underexplored phenomenon. Finally, in comparison to the hybridization of universities elsewhere, our case from Vietnam represents a more extreme case of hybridization in terms of an attempt to significantly change the "business model" of the university in question. That is, unlike other cases of hybridizing universities, our evidence adds to the literature a case in which lecturers were pushed towards offering on the open market services that were not related to teaching, but more like consulting services.

The remainder of this paper is structured as follows. Section 2 details the theoretical background of our study. We primarily draw on the institutional logics perspective and the framework by Pache and Santos (2013a) in order to understand individual responses to competing institutional logics. In Section 3, we provide a brief review of the related literature, especially studies on the potential roles of management control in realizing or resisting institutional change and in hybridization processes. The research methods, including data collection and data analysis, are introduced in Section 4. In Section 5, we examine the responses of the different actors at VNUni to competing logics and how they used management controls to welcome or oppose the adoption of new institutional logics. The final section discusses these findings, presents our conclusions, and acknowledges the limitations of this study.

2. Competing institutional logics and individual responses

Institutional logics are defined as "a set of material practices and symbolic construction" that guide institutional and social meaning (Friedland and Alford, 1991, p. 248). Although an organization can be dominated by a given logic, researchers have suggested that multiple logics may co-exist within an organization – which renders such organizations as hybrid (e.g. Battilana and Dorado, 2010; Grossi *et al.,* 2020a; Joldersma and Winter, 2002; Powell *et al*., 2019; Reay and Hinings, 2005; Thornton and Ocasio, 1999). Organizations that aim for increasingly employing multiple logics face many challenges during the process of hybridization, especially when those logics are not compatible with each other, which is typically due to institutional complexity (Broadbent and Laughlin, 2005; Brorström, 2020; Greenwood *et al*., 2011; Tracey *et al*., 2011). In particular, incompatible logics may result in conflicts between the different groups of interest and power within an organization who may favor one logic over the other(s) (Purdy and Gray, 2009; Reay and Hinings, 2009). Therefore, managing the conflicts between different actors in hybridizing an organization has attracted the attention of researchers and scholars around the world (e.g., Denis *et al*., 2015; Polzer *et al*., 2016; Caperchione *et al*., 2017).

One seminal study dealing with conflicting institutional demands is that of Pache and Santos (2013a), who developed a comprehensive model that predicts individuals' responses to competing institutional logics. In this paper, we follow Pache and Santos (2013a) to understand better why actors in our case study welcomed or resisted the adoption of new institutional logics leading to hybridization (see Table 1 for a summary of their framework). In particular, Pache and Santos (2013a) underline that important drivers of individuals' responses are their degree of adherence to each of the institutional logics with which the individuals may be a novice, familiar, or identified, as well as the degree of hybridity of their organizational context. An individual who is a *novice* with a given logic has no or very little knowledge and information about that logic. Thus, that person is very unlikely to change his or her behavior to meet the demands imposed by the new logic. On the other hand, an individual is *familiar* with a given logic when the knowledge and information about that logic are only moderately accessible to that person. Therefore, he or she is likely to understand and comply with the demands imposed by the logic to gain legitimacy, but the compliance with that logic does not follow his or her taken-for-granted beliefs. On the contrary, an individual is *identified* with a given logic when the knowledge and information of that logic are highly accessible to that person, so he or she is likely to be emotionally and ideologically committed to it because that logic is not only taken-for-granted but also part of his or her identity. Pache and Santos (2013a) state that these categories should be viewed as continuous steps rather than as clearly distinct steps. Specifically, a novice individual who is exposed to a given logic for a period of time is likely to become familiar with it. Similarly, a person who is familiar with a given logic may become increasingly attached to that logic and identified with it.

Furthermore, Pache and Santos (2013a) develop a repertoire of individuals' five potential responses to competing institutional logics: ignorance, compliance, defiance, compartmentalization, and combination. *Ignorance* refers to an individual's lack of awareness about the impact of a given logic instead of deliberate resistance. *Compliance* refers to the response of an individual who fully obeys the values, assumptions, taken-for-granted beliefs, and practices prescribed by a given logic. In contrast to compliance, *defiance* refers to an individual's opposition and desire to eliminate the values, assumptions, taken-for-granted beliefs, and practices prescribed by a given logic. Unlike ignorance, defiance is a conscious response that involves not only the refusal to obey a given logic but also the act of attacking and trying to eliminate it. *Compartmentalization* refers to the response of an individual who tries to comply with all competing logics but deliberately keeps them separated to secure legitimacy, even if these competing logics are not compatible with each other. This response, however, comes with the potential outcome that hybridization will not succeed and de-hybridization may occur (Kastberg and Lagström, 2019). At the same time, however, it has been found that skillful organizational leaders may successfully deal with compartmentalization and secure an organization's further viability (Schäffer *et al.*, 2015). Finally, *combination* refers to an individual's attempt to reconcile the values, assumptions, taken-for-granted beliefs, and practices together in some shape or form (Pache and Santos, 2013a).

Table B 1. A Model of Individual-Level Responses to Competing Logics A and B Under Varying Degrees of Hybridity

		Logic A		
		Novice	Familiar	Identified
Logic B	Novice	Ignore logics A and B Role: Ingenuous member	Comply with logic A and ignore logic B Role: Follower[a] Disengaged coalition member[b]	Comply with logic A and defy logic B Role: Protector[a] Challenger[b]
	Familiar	Ignore logic A and comply with logic B Role: Outlier[a] Disengaged coalition member[b]	Compartmentalize logics A and B Role: Intermediary	Compartmentalize logics A and B Role: Advocate
	Identified	Ignore logic A and comply with logic B[a] Role: Outsider[a] Defy logic A and comply with logic B[b] Role: Challenger[b]	Combine logics A and B[a] Role: Infiltrator[a] Compartmentalize logics A and B[b] Role: Advocate[b]	Combine logics A and B Role: Hybridizer

[a]Only in contexts with low hybridity (i.e., where logic A dominates logic B).
[b]Only in contexts with high hybridity (i.e., where logic A and B are of comparable strength)

Source: Adapted from Pache and Santos (2013, p. 28)

While these principal five potential responses of individuals to competing institutional logics found support in empirical research, recent evidence suggests that several more fine-grained variations of these responses exist (Gebreiter and Hidayah, 2019). In addition, Gebreiter and Hidayah (2019) have shown that many individuals do not choose their response strategically, but often do so ad hoc or coincidentally. Similarly, a recent case study on a European university by Lepori and Montauti (2020) suggests that managers of hybridizing organizations do not necessarily adhere to a "heroic" model of organizational leaders, but rather try to create structural hybrid conditions which avoid conflicts and are perceived by the involved actors as "tractable".

Pache and Santos (2013a) also propose that the degree of hybridity of the context has a significant impact on the power of the logics' influence, and therefore the degree to which individuals may be able to oppose a certain logic. According to their framework, an organization features low hybridity when one logic dominates the other logic, while an organization features a high level of hybridity when multiple competing logics are of equal strength. By focusing on three levels of adherence and five types of response, Pache and Santos (2013a) provide a comprehensive model that predicts individuals' responses to competing institutional logics, proposing that individuals are more likely to comply with a given logic that they are familiar with and to which they are committed, while individuals who are unfamiliar with a given logic are more likely to defy or reject that logic.

3. Institutional logics, management control, and hybrid organizations

Drawing on an institutional logics perspective, management control studies have so far mostly focused on the impact of societal and field-level factors on management control practices, influence of institutional logics on performance measurement systems, and the impact of competing logics on budgeting practices in organizations (Dillard *et al.*, 2004; Damayanthi and

Gooneratne, 2017). For instance, Ahrens and Khalifa (2015) examine the impact of regulation on management control practices and how the functioning of compliance is used as a strategic response to the institutional logics of new management controls in the studied universities. Furthermore, by drawing upon the institutional theory perspective and employing a longitudinal case study of a private university in Poland, Grossi *et al.* (2020a) examine how external institutional pressures related to higher education affect organizational logics in hybrid universities. Besides, their findings indicate that the shifts in logics shape the use of universities' performance measurement practices and result in diverse solutions.

It has also been shown that management controls could serve as a medium to eliminate or reduce the tension between multiple institutional logics (e.g. Chiwamit *et al*., 2014; Hayne and Free, 2014; Schäffer *et al*., 2015; Järvinen, 2016; Busco *et al*., 2017). For instance, Schäffer *et al*. (2015) show that management control practices play a crucial role in handling institutional complexity, indicating that the restructuring of a firm's management control system not only allows an actor situated between two institutional logics to engage in some form of selective coupling of colliding logics, but also allows another actor (who is shaped by opposing logics) to compartmentalize the extant logics and protect the survival of the organization. Similarly, Busco *et al*. (2017) show that management controls act as "boundary objects" that sustain the conflicting nature of hybrid organizations by attracting multiple interests and expectations and establishing complex interconnections with them. Moreover, Nielsen *et al*. (2019) add that, in addition to the role as a mediator that balances different interests, values, and demands by representing logics, performance measurement systems – an important part of many organizations' overall control system (Malmi and Brown, 2008) – could also function as a disrupter and symbolizer. In this view, the performance measurement system assumes the role of a disrupter when a performance measurement system represents only one logic that increases tensions, whereas it becomes a symbolizer when it is used to enhance legitimacy.

Some additional work on hybridization and management control has been done in relation to universities – the type of organization on which our empirical material focuses. Gebreiter and Hidayah's (2019) case study focuses on the hybridization of an English business school and analyzes how individuals respond to a changing view of students that repositions them from "learners" to "customers." As indicated above, their study finds that a broad variety of individual business school members' responses to this development could be observed, many of which were not formed deliberately or strategically, but rather were improvised, ad hoc or coincidentally. However, it seems fair to summarize that their study did not particularly investigate the role of specific management control instruments in this process, which leaves room for our study to complement the work of Gebreiter and Hidayah (2019). Research more closely looking into the role of management control practices includes the multiple case study by Dobija *et al.* (2019), which looked at four Polish universities and sheds light on the role of performance measurement systems on hybridization. Here, the performance measurement systems were mostly used to track and report academic performance – internally and externally – in line with international expectations, for instance, from accreditation agencies. In keeping with the compartmentalization response suggested by Pache and Santos (2013a, see above), market and academic logics co-existed in their cases. Zooming in on one of these Polish universities, Grossi *et al.* (2020a) present evidence regarding how a private business school started with relatively clear business logics due to its need to finance via teaching, while in recent years it has prioritized integrating a higher degree of hybridity due to an increased focus on research excellence. Their study documents how such hybridization is reflected in and reinforced by the universities' performance measurement system. It thus extends prior research on such performance measurement systems, which have clearly increased in importance in recent years and have also contributed to growing hybridization of universities and other organizations (e.g., Gstrauntahler and Piber, 2012; Kallio *et al.*, 2016, 2017; ter Bogt and Scapens, 2012).

In summary, it can be seen that while most of the management control literature generally underpins the notion that management control practices may be important devices in handling competing logics and thus hybridization (e.g. Busco *et al*., 2017; Chiwamit *et al*., 2014; Dobija *et al.*, 2019; Grossi *et al.*, 2020a; Hayne and Free, 2014; Järvinen, 2016; Nielsen *et al*., 2019), research specifically studying individual responses to competing logics is less concerned with the role of management controls (e.g. Pache and Santos, 2013a; Gebreiter and Hidayah, 2019). This leaves room for our study to analyze different actors' responses to the mobilization of management control practices in hybridization processes – in particular, there is little evidence on how such developments play out in an emerging-country setting.

4. Research methods

4.1. Data collection

This paper adopts a longitudinal case study approach and is focused on VNUni, a public Vietnamese university. Our selection of this case was driven by our principal research interest to study the hybridization of a public-sector organization in emerging countries, but also by access to this case due to one author's professional contacts. Access to in-depth case studies in emerging markets is reported to be often difficult (Reddy, 2015). Our experience confirms this notion, and consequently, we tried get access to as much information from VNUni as possible, while at the same time trying to not stretch the university's willingness to participate in our study too much.

In effect, we were granted access to multiple sources including internal documents from our case site and semi-structured interviews. In this vein, we were able to collect all internal and external documents related to the financial autonomy of VNUni and its colleges over a period of seven years, from 2013 to 2019. The start year was when VNUni established its first college, which represents an important stepping-stone in our case, as will be detailed below. The collected material included VNUni's internal spending regulations, VNUni's annual financial reports, the schemes of establishing colleges, annual financial reports of each college, internal spending regulations of each college, and official decisions and announcements of the Board of Rectors.

In addition, a total of 23 semi-structured interviews were conducted between November 2017 and August 2020. The time span of these interviews and the selection of individual interviewees results from the university granting us access to interviewing individual actors in this time frame. Each interview lasted between 30 and 120 minutes, with an average duration of 64 minutes (see Table AI for a list of interviews and interviewees' positions). A total of 20 out of the 23 interviews were recorded via audiotaping, while the remaining three interviews were not recorded, as the respondents wished to guarantee their anonymity due to the sensitive issues touched upon in the interviews. For these three unrecorded interviews, we took extensive notes during and after the interviews, which were further processed on the same day as the interviews. Key informants such as Vice President No 1 of VNUni, the manager of the finance and accounting department of VNUni, and the managers of the colleges were interviewed more than once and at different points in time.

All interviews were lead in Vietnamese language. The below interview quotations are presented in English, which necessitated the translation of the original Vietnamese quotations. Such translations involve the risk that the transfer of the original meaning cannot be preserved (Feldermann and Hiebl, 2020). We tried to circumvent this risk as far as possible: first, one of the authors of this paper is fluid in both Vietnamese and English and provided the first draft of the translations. These translations were then scrutinized by the second author. The second author is not fluid in Vietnamese, but the meaning of the quotations was challenged by this author and discussed with the first author. This procedure led to several amendments of the original translations of quotations. While we cannot rule out the possibility that some meaning of the original translations could not be successfully transferred to English, our awareness of this risk (Feldermann and Hiebl, 2020) and our procedures to avoid this risk from materializing leave us confident that the below quotations adequately transport the interviewees' intended meaning. Apart from formal interviews, we also had informal conversations via electronic mail or informal meetings in order to gather more information as well as clarify the information obtained from the formal interviews.

4.2. Data analysis

Sensitized by our theory and literature background, as detailed in Sections 2 and 3, we went through VNUni's internal documents, interview transcripts and further material several times and coded all instances which related to the central themes of this paper such as hybridization, management controls and individual actors' responses. In this coding exercise, we followed the tenets of Thomas's (2006) general inductive approach. We then grouped our codings into larger topics. Three such topics emerged and build the structure of the below findings Section 5. While these three topics emerged inductively from our reading of the empirical material, our focus resulted from our overall research objectives. That is, our analytical procedures were neither purely inductive, nor purely deductive, but a combination of the two, which renders our approach as abductive (Lukka and Modell, 2010).

The first topic, which will be discussed in Section 5.1, deals with the background of VNUni and the emergence of business logics at this university. Here, we focus on which institutional logics co-existed at VNUni and how these logics competed with each other. The second topic, detailed in Section 5.2, concerns the different groups of actors at VNUni affected by hybridization. Here, we identify three groups of actors who had the most significant impact on institutional change at VNUni and who were most affected by this change: the senior managers of VNUni, the managers of the colleges, and the lecturers of the colleges. Finally, the third identified topic explores the role of management controls in realizing or resisting institutional change at VNUni. Here, we focus on studying how the different actors at VNUni used management controls to welcome or resist institutional change. We found that this usage was not stable over time, instead observing considerable change. This is why we present our findings on the role of management controls in the hybridization of VNUni in five chronological stages, which correspond to the five subsections in Section 5.3.

5. Findings

5.1. The rise of competing logics at VNUni

VNUni has been established as a leading public university for education and training at both undergraduate and postgraduate levels. Like many other Vietnamese public universities, VNUni had to set up a roadmap for financial autonomy after the Vietnamese government decided in 2010 to reduce gradually its subsidy for public universities. In addition, there was a change in the policy of entrance examinations for admission into higher education institutions in Vietnam, as well as a significant decrease in labor demand for the industry sector to which VNUni primarily caters. Consequently, the number of students entering VNUni has decreased significantly in recent years. This decline also reduced the revenue from tuition fees. Therefore, VNUni stated that it would need to strengthen other sources of revenue besides traditional revenues from the government's budget and tuition fees. One of the sources that VNUni decided to promote was the provision of science and technology services to outside organizations ranging from private companies to government organizations. In order to do that, VNUni increasingly directed its faculty members towards financial autonomy by upgrading its faculties to colleges, thus enabling these units to operate on the market like private enterprises.

Another reason why the Board of Rectors decided to upgrade the faculties to colleges was that they wanted to improve the faculties' volume and quality of scientific research. In the Board of Rectors' view, VNUni had too few scientific papers produced per lecturer, and those published were of generally low academic quality. VNUni's senior managers and lower-level managers, as well as the media and many politicians, believed that the regime and policies of the Vietnamese government for tenured public university employees were to blame for such poor research performance. In accordance with Vietnamese governmental regulations, public employees – known as *nhân viên biên chế* in Vietnamese – are those who work in long-term indefinite service positions in state agencies and units such as public hospitals and public universities and are entitled to stable salary and allowance regimes until retirement age. However, due to their indefinite nature and lack of incentives for high performance, tenured public positions are sometimes viewed in the Vietnamese public discourse as one of the main reasons for the poor performance of public organizations and state agencies. Similarly, the Board of Rectors of VNUni believed that because the majority of VNUni's workforce were tenured public employees who were paid the same regardless of their performance, large parts of its workforce were lacking motivation, drive, and creativity in doing scientific research. Thus, VNUni's senior managers expected that the introduction of the colleges model and the cessation in hiring tenured public employees would eliminate the policy of an "all equal" approach to salary payment, because in the new model the lecturer's income would depend on the results of their work. For instance, Vice-President No 2 of VNUni explained:

> As they [the lecturers] are currently working under the state mechanism, everyone is paid the same. Therefore, it does not stimulate people and units to develop scientific research and technology, so we need a new institution that is appropriate for their role. (Interview, Vice-President No 2 of VNUni, 2017)

From 2013 to August 2019, four faculties were "upgraded" (in the view of VNUni's Board of Rectors at least) to colleges, including Techno College, Timber College, Design College, and

Resources Management College. Although VNUni's Board of Rectors envisioned that all faculties would eventually become colleges, five faculties remained at the time of our investigations. Some managers of these faculties, such as the head of the Faculty of Economics, argued that they were not eligible to be upgraded because they hardly had any science and technology service activities and had heavy teaching loads, which would prevent them from offering services on the free market. Other heads of non-transformed faculties such as the head of the Faculty of Environment would have been more open to being transferred to the college model. However, his facility still had relatively high teaching loads, which is why the Board of Rectors preferred these faculties to not be transformed into colleges for the time being.

In general, Vice-President No. 1 explained to us that the university only transformed four faculties into colleges, as it was VNUni's first experience with the college model and it only wanted to experiment with approximately half of faculties. This vice-president also mentioned that the four faculties to be transformed were selected because they had relatively more research activities and lower student numbers than the other faculties. The Board of Rectors expected that the idle teaching hours could be used for consultancy and technology transfer activities.

That is, while the faculties usually had only two main tasks (i.e., teaching and conducting research), the colleges were to have three main tasks: teaching, research, and providing science and technology services, such as consultancy and technology transfer. The main difference between the faculties and colleges was that the former had no legal status to be able to sign contracts on the provision of science and technology services with outside partners. If a faculty wanted to sign such contracts, it needed approval from the VNUni central administration, which then signed the contracts with external partners on behalf of the faculties. In contrast, after the establishment of colleges, each college had its own legal status and could sign contracts with external partners without central permission. Thus, VNUni's Board of Rectors expected that the established colleges would be able to earn more income by eliminating complex internal procedures and paperwork associated with communication between the faculties and VNUni's central administration. Our interviewees also reported that in rare cases, non-transformed faculties turned to colleges to sign contracts with business partners on their behalf, as those non-transformed faculties did not have the legal status to operate on the open market alone. Beyond such forms of collaboration, the more general impression from our interviews was that no animosity developed between faculties and colleges despite them being treated differently by the Board of Rectors (in terms of being transformed to the college model or not). As detailed below, the lecturers at the faculties and colleges rather blamed VNUni's central management for their unequal salaries.

To summarize, due to the re-organization of some of the faculties into colleges, VNUni can be viewed as a hybrid organization since it combines two separate kinds of institutional logics: the academic logics that guide its mission to provide education and conduct scientific research, and business logics that require a sufficient amount of profit to be able to continue to carry out teaching and scientific research tasks. However, the combination of the academic logics (that had dominated VNUni and other higher education institutions in Vietnam for a long time) and business logics created tensions between the different VNUni actors. For us, this creates the opportunity to explore how the different actors responded to the competing logics and how they used management controls to realize or resist institutional change.

5.2. Different groups of actors and individuals' responses to competing logics at VNUni

This section will focus on analyzing the responses of the three core groups of actors, all of whom had a significant impact on policy and institutional changes. These groups include (i) the Board of Rectors, (ii) the college managers, and (iii) the lecturers. In particular, the academic managers (including the Board of Rectors) and the college managers were important actors in changing institutions, as they had significant power in making decisions, setting priorities, and mediating the potential tensions exerted by different demands. At the same time, the lecturers also had a significant influence on institutional changes at VNUni through formal meetings with their senior managers, which were held every year. At such occasions, lecturers and their representatives could present their opinions to the senior management on the new policies and generally on institutional changes. Since VNUni began to exercise the model of financial autonomy, our findings suggest that, in the classifications of Pache and Santos (2013a), the senior managers of VNUni were only *familiar* with business logics, but not well experienced. Specifically, the Board of Rectors had only recently become familiar with the business logics, when the Vietnamese government instigated in 2010 the requirement of all public universities to develop a roadmap for financial autonomy. Although such autonomy had been a relatively new objective for VNUni, the Board of Rectors were exposed and became familiar with the business logics through learning from the business and financial autonomy models of other universities in Vietnam and beyond. For instance, a member of the Board of Rectors of VNUni remarked:

> [We] relied on advice from domestic and foreign experts on the model of financial autonomy. This model is internationally known as "college." For example, The Hanoi University of Science and Technology or the National University of Civil Engineering also have colleges, a research center or community. (Interview, Vice-President No 1 of VNUni, 2017)

In addition, VNUni's central administration applied the financial autonomy model to its two subordinate units, a manufacturing company and a research institute that only performed scientific research and technology transfer without carrying out the tasks of education and training. The adoption of the financial autonomy model to these lower-level units achieved positive results, as explained by the Vice-President No 1 of VNUni:

> VNUni has two units that achieve 90% financial autonomy. VNUni only subsidizes salaries for two important positions of those units which are the director and chief accountant. Meanwhile, those units are capable of paying full salaries to their employees. That is financial autonomy. (Interview, Vice-President No 1 of VNUni, 2017)

Notably, the senior managers and the managers of the colleges also acknowledged that VNUni built a financial autonomy roadmap because of the demand and pressure from the Vietnamese government. In other words, the senior managers of VNUni incorporated the business model into their organization to achieve legitimacy before more powerful political actors and organizations. The Deputy Director of Timber College remarked:

> In fact, VNUni followed the orders of the Ministry. When the Ministry forced them to exercise financial autonomy, VNUni had just started studying the model of one university or another to know what they would need to do. (Interview, Deputy Director of Timber College, 2019)

Besides these new business logics, our case material suggests that the senior managers of VNUni had long *identified* with academic logics, as they had enjoyed many years of experience in their academic careers at VNUni. According to Vice President No 1:

> The senior managers of VNUni also started from the position of lecturers to move up to management positions. So we have more experience in educational operations than business operations. (Interview, Vice-President No 1 of VNUni, 2019)

As predicted by Pache and Santos (2013a), in the context of academic logics dominating business logics at VNUni, the senior leaders of the university who identified with academic logics but who were also familiar with business logics were likely to compartmentalize both logics. The senior managers at VNUni were likely to become "advocates" in the organization, in which a compartmentalization strategy allowed individuals to display compliance with the new and minority business logics when necessary. This enabled them to gain legitimacy while remaining loyal to the existing and dominant academic logics at a high level, thus avoiding identity threats (Pache and Santos, 2013a).

Similarly, the managers of the colleges had identified with academic logics, since VNUni required new managers of a college or a faculty to have had many years of teaching experience, significant scientific research achievements, and generally high academic qualifications (usually a doctorate or above). In addition, the senior managers of VNUni continued to emphasize that the main tasks of the college managers and lecturers were teaching and researching, as one of VNUni's senior managers remarked:

> VNUni's top mission, which has been regulated by the Vietnamese government and the Ministries, is to provide education and training and carry out scientific research. Therefore, these two tasks must be prioritized for completion first, then the business tasks. (Interview, Vice-President No 1 of VNUni, 2019)

Surprisingly, with the exception of the former Director of Design College, most of the college managers were familiar with business logics as they had already owned their own companies. However, their private business activities were different from the business activities required by VNUni. To prevent the managers and lecturers from completely diverting to business activities, which may have affected the tasks of education and scientific research negatively, VNUni stated that the colleges were not allowed to conduct business by simply buying and reselling goods but rather were required to use their scientific research knowledge to conduct consultancy and technology transfer. For instance, the former Director of Design College explained:

> For example, if you plant trees for sale, this is not allowed because it is merely a buying and reselling operation. However, if I import trees from abroad and study their genetic improvement, so the tree can live well in Vietnam's environment, I can sell those trees. That is the difference between the business of merely buying and reselling and the business of technology transfer. (Interview, former Director of Design College, 2017)

There were a number of managers at the colleges who carried out consultancy and technology transfer projects, but these activities were still spontaneous and uncommon. In addition, the leaders of the colleges were more interested in business logics than their lecturers because the former were under pressure to achieve the business tasks imposed by VNUni. If they failed to meet these business tasks, their leadership positions would be reviewed and reconsidered. However, despite the pressure from senior managers at VNUni, the college managers did not develop a strong connection with business logics when they began to apply such logics into their units (see details below). In short, according to the model of Pache and Santos (2013a), like the senior managers of VNUni, the managers of the colleges played the role of "advocate" in their organization, as they were familiar with business logics and also identified with academic logics.

In contrast to the academic managers of VNUni, most of the lecturers were novices when it came to business logics, but identified with academic logics. For example, lecturers had a high level of job security and a stable salary regime from the task of teaching, which was regulated by the Vietnamese government. As such, it was very difficult for their managers to assign business tasks to them since failure to perform such tasks did not significantly affect their job position. According to the Head of the Central Office of Design College:

> Old thinking has been deeply ingrained into lecturers' minds. State-owned companies have operated very inefficiently, but after being privatized, those companies have risen immediately. For private companies, if their employees don't do a good job, they will be fired immediately. It creates great motivation for them to work well […] The outsiders who work in private companies have more trade-offs than those at the colleges if they don't work well. (Interview, Head of Central Office of Design College, 2018)

So thanks to the regime and policies of the Vietnamese government for tenured public employees, the economic pressure on the lecturers was low. They mostly felt that it was not necessary to work more or harder, including potential works related to consultancy and technology transfer. Furthermore, because all of the lecturers were paid the same for the tasks of teaching and research regardless of their performance, their motivation and performance in research were not very high either. The non-existent pressures or incentives to expand their research skills also made the lecturers more hesitant to participate in external business activities due to the lack of marketable skills. Finally, many of our interviewees suggested that most of the lecturers worked for VNUni in order to enjoy leisurely jobs and to be able to devote more time to other things, such as looking after their families. Therefore, there was a tendency to avoid engaging in technology transfer and consultancy activities that would require them to study and work harder. For example, one of the informants explained:

> The college's science and technology service projects are few because the lecturers in my college are not motivated to do business. I do not fear that my employees will starve to death. They can still live without doing the projects on the outside because they have been paid by the state budget for teaching and training [...] Doing business on the outside requires more work pressure and requires higher levels of expertise than their current expertise. Thus, it requires them to study more and to work harder. Because doing business on the outside would cause their life to be more strenuous, they hesitate to join in with those works. (Interview, the former Director of Design College, 2017)

As a result, the majority of lecturers at VNUni adhered to the "protector" role as defined by Pache and Santos (2013a), and thus complied only with academic logics and rejected business logics. Admittedly, as VNUni had a total of more than 500 lecturers, there were some individuals who would fall into other categories rather than "protector." For example, we spoke to a newly hired lecturer who was a novice with academic logics but identified with business logics. Although he was likely to act as an "outsider" who tended to ignore academic logics and comply with business logics, he had no significant influence on his fellow lecturers and thus on institutional change at VNUni more generally.

The number of lecturers who fell into categories other than the "protector" category was relatively small, and such individuals were scattered throughout departments, faculties, and colleges. They could thus hardly form a minority coalition in favor of business logics to argue against a majority lecturer coalition trying to protect long-standing academic logics. Thus, in our subsequent analysis of the role of management controls, we will not detail the role of the lecturers who did not adhere to the "protector" category. Likewise, the views expressed by the actors within the other two core groups in our case (i.e., senior central managers and college managers) were homogeneous. Consequently, the "individual" responses to management controls are presented as the three core groups' responses, as the individuals in each group expressed similar views in our interviews. This presentation of individuals' responses organized in groups was also foreseen by Pache and Santos (2013a). They noted that "every organization is composed of a mosaic of groups" (p. 31) and that hybridization may lead to "between-group conflict" (p. 29). Hence, while the analysis below may be criticized for abstracting from individual responses, the logic that tensions around hybridization arise between groups is in line with the underlying theoretical framework proposed by Pache and Santos (2013a).

5.3. The role of management controls in realizing or resisting institutional change at VNUni

5.3.1. January 2017 - May 2017

To guide financial autonomy for the colleges, VNUni's central administration required its colleges to set up their own management accounting systems. This included establishing accounting departments, a business strategy, annual budgeting, and internal spending regulations so that the colleges could be responsible for their own revenues and expenditures. The colleges also had to report their management accounts to VNUni and to the Vietnamese authorities, as the colleges were obliged to pay taxes to the government as well as pay a portion of their revenues to VNUni.

Starting in early 2017, VNUni set up a financial autonomy roadmap for the colleges, which involved a basic salary and additional salary for each lecturer. That is, the management control system at work here were incentive systems. The basic salary was a fixed monthly salary that each lecturer would receive, while the additional salary would be paid according to individual performance and based on assigned ranks (A, B, or C). Before the establishment of the colleges, VNUni provided both basic and additional salary payments to the lecturers at the faculties. However, none of the faculties ranked their lecturers at a low level, so almost all lecturers received the full additional salary. The leaders of the faculties would not have benefitted from assigning lower ranks to their lecturers, because to do so would risk losing the support of their staff. And in the end, it was VNUni's central administration that needed to finance the additional salaries and not the faculties. In the words of one of our interviewees:

> In the past, the faculties also assessed the performance of their employees on a scale of A, B, and C, and then submitted it to VNUni. […] However, the reality is that none of the faculties would rank their staff at a low level because the Vietnamese mentality is affectionate and respectful. If the units ranked their lecturers low, VNUni would benefit from that amount of money saved, but the managers of the units would lose the hearts of their staff members. (Interview, Director of Resources Management College, 2018)

In order to motivate the colleges to be financially autonomous and to eliminate the policy of staff being "all equal" in terms of salary payment, VNUni gradually reduced its subsidy on additional salary payments, and instead implemented a system in which the colleges would be responsible for paying additional salaries to their lecturers. For instance, in 2017, VNUni only paid 50% of the additional salary to the lecturers of Timber College, while Timber College needed to pay the remaining 50% from its own budget. By 2020, Timber College would have to pay 100% of the additional salaries to its lecturers. The senior managers of VNUni hoped that the gradual reduction of the lecturers' salaries at the colleges would motivate college managers and lecturers to participate actively in scientific research and technology transfer activities. Without additional revenue from such activities, it was foreseeable that the colleges would not have sufficient funds to pay full additional salaries to all lecturers. So VNUni's senior managers envisaged that, instead of being paid fixed salaries, the lecturers would be motivated to work harder and raise more money through scientific research and technology transfer services in order to enjoy the fruits of their labor.

VNUni also required the colleges to contribute a portion of their revenues to the university. For example, the colleges had to contribute about 5 to 6% of their revenues to VNUni in 2017. The higher the revenues, the more financial contribution the colleges had to make to VNUni.

Alongside VNUni's traditional criteria for evaluating lecturers' performance, such as the number of teaching hours or the number of research hours, the colleges also would have to develop their own criteria to evaluate their lecturers' performance in relation to business activities. Similarly, the assessment of the colleges' performance was also different from that of the faculties, in which VNUni used financial results (e.g., the level of financial contribution and the level of payment of additional salaries to the lecturers) as indicators to evaluate the colleges' performance. If a college fulfilled its obligation in making a financial contribution to VNUni or paying the additional salaries to its lecturers, that college was evaluated as fulfilling its business duties. Conversely, if a college did not fulfill either of the above financial tasks, it was assessed as not fulfilling the business tasks.

In short, the senior managers of VNUni applied management control systems – in particular, performance measurement systems – to adopt business logics. However, the Board of Rectors compartmentalized business and academic logics via management controls as the goals, values, and practices of business and academic activities at VNUni were kept separate from each other. In particular, the traditional goals and practices of teaching and scientific research for the lecturers at both colleges and faculties remained the same as before the establishment of the colleges. Also, the senior management of VNUni did not rely on academic activities in setting financial goals for the colleges.

5.3.2. May 2017 - December 2017

By the end of 2017, the financial results of the colleges were relatively low due to the limited number of consulting and technology transfer projects. As such, the managers of the colleges only contributed 5% of the total revenues of their colleges to VNUni, and they did not pay the remaining 50% of the additional salaries to their employees for a number of reasons. First, the managers of the colleges argued that the task of making a financial contribution to VNUni was more important than paying the remaining 50% of an additional salary to their employees. One of the college managers added:

> Last year [2017], the financial contribution goals of the colleges were very small [...] For the policy of 2017; the managers were only pressured by their staff. The pressure from the higher-level managers is still higher than the pressure from the subordinates. (Interview, Director of Resources Management College, 2018)

Second, college managers also indicated that the imposed goal of paying 50% of the additional salary to the lecturers was relatively high and difficult to achieve. According to the Deputy Head of the Finance and Accounting Department:

> The colleges' managers claim that the financial goals that VNUni has imposed on them are high while their revenues are not stable because they do not have regular customers. (Interview, Deputy Head of the Finance and Accounting Department of VNUni, 2018)

Besides, the college managers disagreed with VNUni's idea to cut the additional salaries of their lecturers. Specifically, they asserted that VNUni's expectation that the colleges should pay an additional salary to their lecturers, one that was as high as that previously paid by VNUni, it was not different from the previous policy of the "all equal" approach to salary payments. The Director of Techno College explained:

> VNUni wanted the colleges to pay an equivalent additional salary to the lecturers as VNUni did. However, if such a mechanism is implemented, it does not create incentives for our employees to work because their work efforts are different, but they will get the same additional salaries. (Interview, Director of Techno College, 2018)

Meanwhile, during the 2017 Conference of Civil Servants and Public Officials at VNUni, cuts to the additional salaries were strongly opposed by the college lecturers. By comparing the incentive scheme of colleges with that of faculties, the lecturers argued that VNUni's incentive scheme was unfavorable to them. Specifically, they pointed out that although they completed the assigned numbers of teaching hours and scientific research hours, which were similar to those of the faculties, their additional salaries were lower than that of faculty lecturers. The Director of Techno College added:

> The members of the colleges were also more disadvantaged than those of the faculties. For example, when the members of the faculties just perform 280 hours of teaching, they can receive their entire additional salaries. At the same time, the members of the colleges, apart from doing 280 hours of teaching, have to do other things to receive the remaining 50% of additional salary. (Interview, Director of Techno College, 2018)

In addition, the college lecturers believed that the business activities of their colleges negatively affected their lecturer status, which was prescribed to only serve education and scientific research purposes. According to the Deputy Director of Techno College:

> Many [lecturers] think that their main job is to teach because their position is a lecturer. They think that because they have no expertise in service activities, they cannot do it well. They claim that they are not merchants. (Interview, Deputy Director of Techno College, 2019)

To summarize, the college managers displayed compliance with business logics, but only partially and moderately carried out the business tasks to gain or sustain their legitimacy. Specifically, the colleges only contributed 5% of their revenues to VNUni without paying the remaining 50% of the additional salary to their employees, as the financial contributions to VNUni made it easier for them to maintain their leadership position in front of the Board of Rectors. On the contrary, by pointing out the inequality in the incentive schemes between faculties, which had not been hybridized, and colleges, which were moving towards hybridization, the lecturers of the colleges opposed the business logics that threatened their identity as lecturers and their financial stability.

5.3.3. January 2018 - May 2018

To reduce the dissatisfaction of the college lecturers, the Board of Rectors decided to pay 100% of the additional salary to all lecturers of the colleges at the beginning of 2018. However, VNUni would only pay 60% of the additional salaries to these lecturers in advance. Whether or not VNUni would pay the remaining 40% of the additional salaries would depend on the extent to which the colleges fulfilled their financial obligations to the university. Instead of imposing flexible financial contributions on the colleges, in 2018 VNUni imposed fixed financial contribution targets on each college. For example, the financial contribution targets of the Techno College, Timber College, Design College, and Resources Management College in 2018 were 147 million VND, 119 million VND, 136 million VND, and 79 million VND, respectively.

VNUni based these numbers on the colleges' revenue histories, including recent contracts signed by the colleges with outside partners. At the same time, these numbers represented a reduction of the colleges' financial goals in 2018 compared with 2017. The aim was to lower the financial pressure on the college managers, and also to encourage the colleges to use their financial resources for development and reinvestment in science and technology service activities. For example, in 2017 Timber College had to pay an additional salary of 380 million VND to 32 employees, and contribute 40 million VND to VNUni, resulting in a total of 420 million VND. But in 2018, VNUni only set the financial contribution target of 119 million VND for Timber College, which approximately equaled one-quarter of the 2017 figure. Remarkably, the managers of the colleges were empowered to manage the additional salaries of their employees. For instance, they were given the right to deduct additional salaries from low-performing lecturers and use that money to contribute financially to VNUni. The Director of Techno College remarked:

> The lecturers cannot automatically receive 100% of the additional salary. Everyone's salary cannot be the same [...] Thus, if he contributes to the college much, he will receive the additional salary. If not, we will deduct his salary. The amount deducted will be accumulated into the 147 million VND and handed over to VNUni. (Interview, Director of Techno College, 2018)

Like 2017, the colleges still had to rely on VNUni's central criteria to evaluate their employees' performance in relation to education and scientific research tasks, while the criteria related to service and business activities were still designed by the colleges themselves in 2018. Similarly, in addition to traditional evaluation criteria related to training and scientific research activities, VNUni relied on the financial contribution of the colleges as one of the criteria to evaluate performance. If the college managers were unable to achieve these goals in two consecutive years, they were likely to lose their managerial positions. This meant that the college managers seemed to be solely responsible for achieving the financial contribution targets, which may explain why they were suddenly open to *not* giving every lecturer the full amount of additional salary. An explanation for this behavior may be that unlike previous years, they could now use these deductions to reach their own individual targets regarding the colleges' contributions to VNUni's central budget.

In summary, via management accounting and control, the senior managers of VNUni tried to reduce the lecturers' opposition to business logics by putting the entire responsibility of reaching financial targets on the college managers. Moreover, during this period, the senior managers of VNUni continued to compartmentalize business logics and academic logics by separating the traditionally applied goals and the performance measurement system of academic activities from that of business activities. In turn, the college managers showed some creativity in reaching the targets regarding the colleges' contribution to VNUni's central budget by using parts of the additional salaries of their lecturers. Thus, all involved actors did not contest the management control practices in use (e.g., the payment of fixed and additional salaries), but at least the college managers tried to game the existing rules of these practices.

5.3.4. May 2018 - December 2018

The college managers argued that the financial obligations were primarily focused on them, while the lecturers were no longer under pressure to implement consulting and technology transfer projects when, starting in 2018, they could still receive 100% of the additional salaries from VNUni, regardless of whether or not they were engaged in service and business activities. This did not increase the motivation of the lecturers to participate in business activities, as detailed by one of our informants:

> In 2018, when VNUni transfers the additional salaries to [the lecturers] through the bank account, [the lecturers] believe that they obviously own the money. Thus, they consider that the college's financial obligation to VNUni is the job of their [college] managers, not [the lecturers'] business. (Interview, Head of Central Office of Design College, 2018)

Also, it was believed that the teaching tasks, as well as lack of practical experience, affected the business tasks of the colleges negatively, so that the colleges had difficulties in competing with other organizations in bidding for consultancy and technology transfer projects. The Deputy Director of Techno College added:

> Currently, science and technology transfer activities are still relatively new for us, so it is difficult for us to compete with outside [organizations]. We also have to carry out the teaching duties, and they interrupt our research and technology transfer tasks. In particular, the lecturers are only interested in teaching, but less interested in business, while only the leaders [of the colleges] care about it [...] As a result, business activities are difficult for us. (Interview, Deputy Director of Techno College, 2019)

At the end of 2018, the college managers pointed out that the colleges had little or no science and technology service activities. Consequently, the colleges had not generated enough revenue from science and technology service activities to achieve the financial goals set by VNUni's Board of Rectors. However, most of the colleges (except Design College) still achieved the financial targets of VNUni by temporarily collecting a part of the lecturers' salaries to contribute financially to the university. After the colleges completed their financial obligations, VNUni would pay the remaining 40% of the additional salary to the college lecturers. Thus, the salaries of the lecturers still remained relatively high (but below 100% additional salaries due to the deductions by the colleges) while the college managers also achieved VNUni's financial goals without the need to participate in business activities. The Director of Design College remarked:

> But the truth is that there are many colleges that don't have the capability or don't have money to contribute financially to VNUni. Recently, there have been some creative colleges that collected money from their employees to make a financial contribution to VNUni. After the colleges fulfilled their financial contributions to VNUni, VNUni would pay the remaining 40% of additional salaries to their lecturers. Thus, it turned out to be a draw. Meanwhile, the leaders of the colleges had a reputation in accomplishing (business) tasks. (Interview, Director of Design College, 2019)

Similar to 2017, at the 2018 Conference of Civil Servants and Public Officials, the college lecturers continued to point out the injustice between the incentive scheme of the colleges and that of the faculties to oppose the business logics. Specifically, they believed that the college lecturers were disadvantaged compared with the faculty lecturers, because the latter were subsidized with all basic salaries and additional salaries, while the additional salaries of the former were cut. Furthermore, the college lecturers also objected to the imposition of fixed financial goals on the colleges. In particular, they complained that they needed to participate in business activities to gain income for their colleges, so that they could reach the financial targets set by VNUni's central administration, which in turn secured the full additional salary for the lecturers. One of our informants explained:

> The lecturers do not want that [i.e., the high financial contribution targets] because they want to work a little more to get more income, which compensates for the labor effort that they have spent. Therefore, when VNUni required the colleges to make financial contributions to central administration, [the lecturers] did not like it because it could affect their personal incomes. (Interview, Deputy Director of Techno College, 2019)

In short, during this stage, the college managers continued to compartmentalize business logics and academic logics, as the respective tasks were still separate. In particular, the college managers took advantage of the new authority granted by the senior managers in managing their employees' salaries to achieve VNUni's financial goals as well as to gain their legitimacy. Meanwhile, the college lecturers opposed the high financial goals of the senior managers by pointing out that their interests were negatively affected by those goals. Despite these developments, our evidence indicates that there was not much increased activity among the colleges and lecturers in obtaining revenue from science and technology services.

5.3.5. January 2019 - August 2019

In early 2019, the senior managers of VNUni disagreed with the college managers' solution to collect part of the lecturers' additional salaries as a way to enable the colleges to reach their financial contribution targets. VNUni's Board of Rectors believed that this solution would reduce the motivation of colleges to increase revenue through business and service activities. The Head of Finance and Accounting Department added:

> It will reduce the motivation of the colleges in carrying out consultancy and technology transfer activities. In essence, this financial contribution must come from their business activities and cannot be taken from the salaries of the lecturers. […] But here, they use that money to pay it to VNUni. As such, the senior managers of VNUni believe that the colleges have not yet completed [their business tasks]. (Interview, Head of Finance and Accounting Department of VNUni, 2019)

Therefore, to encourage the colleges to increase their revenues through science and technology service activities, VNUni's Board of Rectors decided to return to flexible financial contribution targets for its colleges. Specifically, if a college's revenue was less than 1 billion VND, they had to contribute 5% of this revenue, whereas if revenue was between 1 billion VND and 2 billion VND they had to contribute 3%, and over 2 billion VND they had to contribute 2%. The senior managers of VNUni believed that setting such financial goals would create incentives for the colleges to earn more money, as explained by Vice-President No 1:

> VNUni applied flexible financial targets to the training units. The application of flexible financial targets is to stimulate colleges to make more money. The higher the revenue they have, the higher the profit they will gain. (Interview, Vice-President No 1 of VNUni, 2019)

Moreover, VNUni required the colleges to pay full salaries to the chief accountant, accounting assistants, and technical staff who only served science and technology service projects. VNUni's senior management argued that the colleges had to pay full salaries to those staff who did not participate in training activities, but would only support the college managers to make better use of human resources. One of our informants remarked:

> The colleges will have to pay full salaries to those who only serve production and business activities [...] When the colleges pay salaries to these employees, the managers assigning these [business] tasks to these employees will be more effective. In the past, when VNUni paid salaries to these staff members, the managers of the colleges had a harder time in assigning tasks to them. (Interview, Head of Finance and Accounting Department of VNUni, 2019)

At the same time, VNUni also separated the costs of business activities from the costs of training and required the colleges to pay their own regular expenses (e.g., waste costs, electricity costs, or water costs), those that cater to production and business. As a result, VNUni installed electricity and water meters and relied on the working schedule to distinguish between the electricity and water costs of business and training activities.

Furthermore, to reduce opposition from the college lecturers and tensions between lecturers, college managers and VNUni's central management, in early 2019, VNUni's Board of Rectors cut the entire additional salary of all lecturers, at both faculties and colleges. On the one hand, this cut was motivated by a sharp decline in student numbers and significantly reduced state subsidies to VNUni in early 2019. On the other hand, the senior managers of VNUni believed that the reduction in the lecturers' salaries at the faculties would put pressure on the remaining faculties to upgrade to colleges, so that they could have more motivation for participating in business activities and increasing the social welfare of employees. The Board of Rectors hoped these cuts of additional salaries would reduce the growing tensions among lecturers. Notably, VNUni not only abandoned the performance measurement system for the lecturers of the colleges and faculties, but also asked the colleges to set up their own performance measurement system for their lecturers. Paying additional salaries to their lecturers was no longer an indicator to evaluate the performance of the colleges. Meanwhile, one of the criteria for assessing the colleges' performance was whether or not the colleges made financial contributions to VNUni and payed full salaries to its accountants and technical staff. If the colleges could make a financial contribution to VNUni regardless of the amount they paid to accountants and technicians (in accordance with Vietnamese labor law), these colleges would be assessed as fulfilling their business tasks. Otherwise, they would be evaluated as not fulfilling the business tasks.

To summarize, at this stage, the senior managers of VNUni required the colleges to pay their own regular expenses related to the business activities, while the regular expenses for educational and research activities were still paid by VNUni, which again comes close to a compartmentalization strategy. Besides, the senior managers of VNUni not only used flexible financial targets to reduce the gaming behaviors of the college managers, but also cut the entire additional salaries of lecturers at all colleges and faculties to reduce the college lecturers' opposition to business logics.

6. Discussion and conclusions

Because most of the extant literature studying the individual responses to hybridization of public-sector organizations has paid little attention to the role of management controls therein (e.g. Pache and Santos, 2013a; Gebreiter and Hidayah, 2019), the intention of this paper is to contribute to the existing literature by exploring how individual actors reacted to management control practices – and in particular, performance measurements and incentives – to realize or resist institutional change towards a hybrid organization. Our findings contribute to the literature in four ways, which will now be detailed.

6.1. The impact of senior managers as advocates of hybridization

Our study highlights that the senior management of VNUni experienced pressure from the Vietnamese central government to move the organization towards higher degrees of financial independence via hybridization, which is consistent with prior cases of the hybridization of public universities (e.g., Dobija *et al.*, 2019; Grossi *et al.*, 2020a; Lepori and Montauti, 2020) and other public services (e.g., Broadbent *et al.*, 1991; Kastberg and Lagström, 2019). While such studies have revealed interesting differences between organizations in responding to hybridization, our case study – similar to the one Gebreiter and Hidayah (2019) put forward – zooms in on organization-internal dynamics and how various groups of actors responded to hybridization endeavors. In particular, we add to such literature how individuals perceived and made use of performance measurement and incentive systems. Our evidence highlights that the organizational leaders of VNUni constantly *advocated* (cf. Pache and Santos, 2013a) for institutional change – that is, hybridization – via control systems. They aimed to impose their – and the central government's – will and change other actors' behavior via control systems, despite these other actors' (most of whom were lecturers) lack of willingness to follow this route, which is perfectly in line with research on the political role of management controls in implementing institutional change (Hiebl, 2018).

To this existing literature, our case contributes the finding that the initial attempts by VNUni's senior managers were based on "best practices" from the outside, but it turned out that these first attempts led to some creative behavior from college managers and resistance from lecturers. That is, the attempts by VNUni's senior managers came with a "trial and error" element and were frequently changed and re-calibrated, which seems similar to the notion that in light of competing institutional logics, actors' responses are often improvised or even coincidental (Gebreiter and Hidayah, 2019). Our case adds to this evidence by putting forth the argument that such improvisation is not only found at the lower levels of the organizational hierarchies, such as the lecturers in Gebreiter and Hidayah's (2019) case, but also at the very top of organizational hierarchies, such as the Board of Rectors in our case. Our case indicates that the introduction of control practices (e.g., performance measurement) to realize the hybridization of public entities is not necessarily straightforward, but is likely to need amendment to the specific circumstances and reiterations until the initiators of such change come near to realizing the desired outcomes of newly introduced or changed control practices.

More generally, this evidence suggests that a smooth transformation towards a hybrid organization may hinge on the actors driving such a transformation – mainly the Board of Rectors in our case. Here, the predictions of Pache and Santos (2013a) hold well in terms of which groups of actors were likely to behave as *advocates* (Board of Rectors) or *protectors* (lecturers). However, despite some moves to lower tensions, the Board of Rectors' attempts to instill new institutional logics at VNUni were somewhat erratic and followed a trial-and-error approach. Our evidence suggests that this course of action elicited heavy resistance from other actors at VNUni such as lecturers. That is, our case is different from the university case presented by Lepori and Montauti (2020), who stressed the important role of organizational leaders in smoothing the hybridization process by trying to create solutions that are "tractable" to other organizational actors. By contrast, our case shows that *advocates* were not skilled at selling the new logics to *protectors*, who then did not welcome the new logics more openly. Consequently, our case adds to the framework proposed by Pache and Santos (2013a) that not only is individual familiarity with existing and new logics predictive of the role individuals obtain, but the interactions among individuals in organizations may also very much shape the role they obtain.

6.2. Acceptance of management control practices and compartmentalization

Unlike much prior research on management control in emerging economies (e.g., Hopper *et al.*, 2009), our case does not indicate that there was resistance in VNUni against management control practices such as performance measurement and incentive compensation per se. This finding may be interpreted as indicating that all involved actors were familiar or even identified with these control logics (cf. Pache and Santos, 2013a) – most likely because in their basic form, they had already been in place before the new institutional logics were brought into VNUni. In our case, the lecturers resisted the *contents* and *formulae* included in these control practices, and there was debate around how exactly business performance would be measured and what consequences this would have for incentive payments (i.e., the additional salaries), as well as the internal allocation of funds between the colleges and VNUni's central administration. However, in line with prior research on management controls in emerging countries (Damayanthi and Gooneratne, 2017; Hopper *et al.*, 2009), we also find that specifics of societal culture in such countries can affect expectations surrounding management controls, as well as their ability to function. In our case, at least in the earlier stages of the institutional changes, there was evidence of an "affectionate and respectful" culture (see Section 5.3.1), which shaped the expectation that in order to treat lecturers respectfully, each of them should receive the full additional salary. So, the principal acceptance of incentive compensation may be linked to the notion that every actor receives all incentives, which can be viewed as opposing the original intentions of incentive compensation, which includes linking actors' effort and success to their compensation (e.g., Sappington, 1991). Therefore, a contribution of our study to research on management controls in emerging countries (Hopper *et al.*, 2009) is that management controls in such countries may be uncontested because they are not perfectly implemented. That is, the controls are adapted to the respective country's culture, which can violate the original ideas of such controls based on traditional principal–agent theory (cf. Sappington, 1991).

Similar to the management control practices, the overall *compartmentalization* strategy (Pache and Santos, 2013a) of VNUni's senior managers was not contested, since the different treatment and measurement of academic performance and business performance seemed to be accepted by most other actors at VNUni. Rather, it was *how* business performance was measured and incentivized that evoked resistance. This finding adds to the evidence on the (non-)success of such compartmentalization strategies in situations of competing institutional logics (Kastberg and Lagström, 2019; Schäffer *et al.*, 2015). Unlike Kastberg and Lagström (2019), our evidence does not indicate that potential de-hybridization was a likely outcome of compartmentalization, since Vietnamese political leaders strongly drove hybridization and none of our interviewees suspected that this process would be turned around. Our evidence on the "trial and error" approach also does not suggest that VNUni's senior leaders were extraordinarily skillful in managing the tensions between competing institutional logics, as found in the case study by Schäffer *et al.* (2015). Instead, our case indicates that compartmentalization seemed to be a viable solution, as the measurement of traditional academic logics remained virtually untouched and resistance materialized around newly introduced business logics. Consequently, to the literature on hybridization strategies (Kastberg and Lagström, 2019; Pache and Santos, 2013a; Schäffer *et al.*, 2015), our study adds that compartmentalization can be uncontested if new logics and their measurement are added to existing logics, but the measurement of existing logics remains mostly untouched.

6.3. Partial hybridization

One factor specifically contributed to lecturer resistance and frequent amendments of the performance measurement and incentive systems: the fact that, initially, not all faculties were turned into colleges. We term this phenomenon “partial hybridization”, which could be generalized beyond our case as a situation where organizational units within a larger organization feature different levels of hybridization. That is, some organizational units are more exposed to competing institutional logics, whereas other organizational units within then same organization rather stick to one set of institutional logics.

In our case, the partial hybridization of comparable subunits of VNUni – the colleges and the faculties – led to the college lecturers perceiving that they were unequally treated. In particular, they felt that lecturers in hybridized colleges had a harder time obtaining their additional salaries when compared with their colleagues in the non-hybridized faculties. Only during the final stage of our study did VNUni’s Board of Rectors change this situation and remove all centrally paid additional salaries, for lecturers at both colleges and faculties. Consequently, our study adds to the work of Pache and Santos (2013a) by demonstrating that another factor leading to individual responses to competing logics is the partial hybridization of an organization. In addition, this factor was decisively shaped by *advocates* of hybridization – the Board of Rectors. Our case shows that this “partial hybridization” strategy, which was initiated by the Board of Rectors as a form of experimenting with hybridization (see Section 5.1), evoked heavy resistance. This strategy can thus not be identified from our case as a hybridization strategy that keeps resistance low.

Consequently, a theoretical contribution of our study to the literature on hybridization (Fossestøl et al., 2015; Kastberg and Lagström, 2019; Pache and Santos, 2013a; Wiesel and Modell, 2014) is the introduction of the notion of "partial hybridization" and its relevance to driving individual actors' responses towards hybridization in public organizations. Our case indicates that this strategy put forward by *advocates* of hybridization evoked heavy resistance and enforced other individuals to obtain *protector* roles and thus resist hybridization. In terms of practice implications, our case therefore suggests that if organizational leaders want to avoid individuals defying competing logics and adopting *protector* roles, then the entire organization – or at least comparable units – needs to be treated equally so that feelings of unequal treatment and partial hybridization can be avoided or, at least, kept low.

6.4. Extreme case of university hybridization

Finally, our emerging market evidence highlights a more extreme case of hybridization. In contrast to Western hybridization cases at universities where "only" the notion of students (Gebreiter and Hidayah, 2019), research performance (ter Bogt and Scapens, 2012), or public legitimacy (Dobija *et al.*, 2019) were reshaped, our case delivers evidence where academics (i.e., lecturers) were actually pressured to individually start competing in the marketplace with regular businesses for service contracts. This evidence is somewhat similar to findings from Australia, where many universities tried to enhance their revenues by increasing tuition fees and student numbers, which led to a growing level of hybridization (e.g., Christopher, 2012; Parker, 2011).

While the changes in the other mentioned studies undoubtedly had a significant impact, our evidence suggests that such hybridization may lead to more extreme outcomes, such as academics acting as service providers in the open market. While our evidence does not exactly indicate that this hybridization can be considered a "success," due to the limited desire of academics to offer such marketable services and the limited demand for their services, our study adds to the literature the finding that hybridization may not only reshape notions of performance and make it more quantifiable (e.g., Dobija *et al.*, 2019; ter Bogt and Scapens, 2012), but may have even more severe outcomes such as changes to the overall "business model" of universities. By the latter, we mean that due to hybridization, universities may be forced to add or enforce marketable business services in addition to their traditional core tasks of teaching and research.

6.5. Limitations

Of course, our study is subject to some limitations. As discussed above, due to the nature of hybridization, our case can be considered extreme and thus only has marginal statistical generalizability. However, we think that the theoretical generalization (cf. Ryan *et al.*, 2002) that partial hybridization can considerably shape individuals' responses to such hybridization is not affected by this limitation. In addition, due to potential respondents' reticence or fear of reprisals and also the university managers communicated reluctance, we only had a limited chance to interview lecturers in our study. While the three formal interviews with lecturers and further informal talks with lecturers did not contradict our findings, there remains the possibility that our story would be (slightly) different if more lecturers would have been open to our interview requests. Finally, like much other case-based accounting research, the change story we report in this paper cannot necessarily be considered as "finished." We expect that hybridization processes will continue to evolve at VNUni, and it remains to be seen how the removal of all centrally paid additional salaries at colleges and faculties will develop. At the same time, we feel that VNUni's change process so far reveals interesting insights on the role of management controls in hybridization, which hopefully will inform further research on this phenomenon.

References of Section B

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Appendix of Section B

Table AI. Overview of interviews

No.	Date of interview	Interviewee	Duration of interview (min.)
1	21/11/2017	Vice-President No 1 of VNUni	71
2	24/11/2017	Vice-President No 1 of VNUni	58
3	27/12/2017	Director of Timber College	78
4	27/12/2017	Vice-President No 2 of VNUni	65
5	28/12/2017	Former Director of Design College	120
6	04/4/2018	Director of Techno College	68
7	10/5/2018	Director of Timber College	65
8	05/7/2018	Head of General and Administrative Department of Timber College	40
9	05/7/2018	Accountant of Timber College	30
10	06/7/2018	Deputy Head of Finance and Accounting Department of VNUni	54
11	23/7/2018	Director of Resources Management College	88
12	25/7/2018	Head of Central Office of Design College	75
13	05/8/2018	Lecturer No. 1 of Design College	80
14	05/5/2019	Vice-President No 1 of VNUni	68
15	11/6/2019	Deputy Director of Techno College	65
16	12/6/2019	Director of Design College	69
17	03/8/2019	Vice-President No 1 of VNUni	84
18	04/8/2019	Head of Finance and Accounting Department of VNUni	40
19	26/8/2019	Deputy Director of Timber College	52
20	26/8/2019	Director of Resources Management College	41
21	25/7/2020	Vice-President No. 1 of VNUni	80
22	30/7/2020	Lecturer No. 2 of Design College	46
23	04/8/2020	Lecturer of Timber College	40

C. Meeting stretch goals via incentive compensation: Evidence from two emerging-country organizations

1. Introduction

Goal setting, which has long played a central role in motivation theory, emphasizes the important relationship between goals and performance (Locke and Latham, 1990). A number of studies have shown that stretch goals which are extremely difficult to achieve result in higher performance than easy goals (e.g., Cyert and March, 1963; Locke and Latham, 1990; Smith *et al.*, 1990; Chesney and Locke, 1991). Against this backdrop, apart from traditional motivational techniques such as incentive compensation, stretch goals have increasingly emerged as another technique to boost organizational performance by replacing goals based on routine adjustment to aspiration levels (e.g., Collins and Porras, 1997; Thompson *et al.*, 1997; Fuller and Jensen, 2010; Locke and Latham, 2013). However, the use of stretch goals as motivational technique remains controversial in academia as several studies show that stretch goals may have a negative effect on organizational performance (e.g. Audia *et al.*, 2000; Beilock and Carr, 2005; Webb *et al.*, 2013).

On the other hand, there are a number of research indicating that the positive and negative effects of stretch goals on organizational performance depend on certain mechanisms and conditions. For example, Libby (2001) shows that unfair budgeting processes may increase the disruptive effects of stretch goals on performance, while Pfister and Lukka (2019) suggest that an interrelation with personnel and cultural control is needed to enhance the facilitative effects of stretch goals. Although these studies have provided valuable insights, several important antecedents and effects of stretch goals, as suggested in the seminal conceptual paper by Sitkin *et al.* (2011), have not yet been examined. These authors formulate propositions on prior performance and slack resources as key contingency factors to predict the likelihood that organizations draw on stretch goals and examine when stretch goals facilitate or disrupt organizational learning and performance. While some studies investigate the relationships among stretch goals, promotions, and performance (e.g., Garland, 1984, Clor-Proell *et al*., 2015), evidence on the role of incentive compensation in influencing the (positive and negative) effects of stretch goals on organizational performance is lacking. Given the abundant body of research suggesting that incentive compensation is a frequently used control device to steer employees toward the pursuit of corporate goals (e.g., Malmi and Brown, 2008; Speckbacher and Wentges, 2012), we argue that this important but overlooked device may influence the facilitative and disruptive effects of stretch goals, as suggested by Sitkin *et al*. (2011). Combining these research streams, this paper thus complements the existing literature by shedding light on how incentive compensation can be used to achieve stretch goals.

In addition, we examine the application of incentive compensation and stretch goals in an emerging-country setting. The existing literature on stretch goals has focused on their application in developed countries. However, some evidence points to stretch goals being increasingly relied upon in emerging countries, too (e.g., Zhang and Jia, 2013; Zhou *et al*., 2019). At the same time, research on using Western management control practices in emerging countries suggests that their application often faces more resistance than in developed countries – or at least seems to be more slowly adopted and results in different outcomes (e.g., Hopper *et al*., 2009; Joshi, 2001; Ndemewah and Hiebl, 2021; van Helden and Uddin, 2016). For instance, Hopper *et al*. (2009) and Ndemewah and Hiebl (2021) argue that not only differences in culture and core values but also the influences of religion and colonialism have hindered emerging countries from adopting Western management accounting systems. Consequently, our second aim is to complement Western-centric evidence on stretch goals with emerging-country evidence from Southeast Asia. To summarize, our central research question is

> RQ: How does incentive compensation influence the facilitative or disruptive effects of stretch goals on organizational performance in an emerging-country setting?

To answer our research question, we draw on a comparative case study of two Vietnamese organizations: a public university called MTUni and a privately owned manufacturing company called Furniture Company in this paper[2]. Our study offers three main contributions. First, our emerging-country findings seem to conflict with some of the propositions put forward by Sitkin *et al*. (2011). Specifically, the use of stretch goals by MTUni had disruptive effects on organizational performance even though it had performed poorly recently and had high levels of slack resources; by contrast, the use of stretch goals at Furniture Company had facilitative effects on organizational performance even though it had performed well recently and had low levels of slack. Second, our evidence suggests that pressure from external parties may affect the likelihood that organizations pursue stretch goals, which adds to the two key contingency factors (recent performance, level of slack resources) proposed by Sitkin *et al*. (2011). Finally, our study argues that apart from recent performance and the level of slack resources, incentive compensation also plays an important role in determining the (facilitative versus disruptive) effects of stretch goals on organizational performance. More specifically, our evidence suggests that stretch goals can enhance the facilitative effects on organizational performance when organizations increase the level of incentive compensation in such a way that their employees can better see the benefits of pursuing difficult goals. Conversely, if organizations reduce the level of incentive compensation to pressure their employees to achieve seemingly impossible goals, it may increase the disruptive effects on organizational performance.

The remainder of this paper is structured as follows. Section 2 reviews the related literature, especially studies of the effects of stretch goals on organizational performance as well as the influential mechanisms and conditions. In Section 3, we detail the theoretical background of

[2] We have changed the names of the university and company to preserve their anonymity.

our study. We primarily draw on the propositions put forward by Sitkin *et al*. (2011) to understand how two key contingency factors influence the positive and negative effects of stretch goals on organizational performance. Section 4 introduces the research methods including data collection and data analysis. In Section 5, we present our empirical findings. The final section discusses these findings as well as presents our conclusions, implications, and the limitations of this study.

2. Stretch goals and performance

The definition of a stretch goal lacks consensus among scholars. In the management literature, definitions range from difficult but attainable goals to seemingly impossible ones. For instance, Locke (1991) and Latham and Seijts (1999) define difficult goals as those that are only achieved by 10% of individuals that attempt them, while Daniels (2009, p. 36) considers stretch goals as "those that are attainable less than 10% of the time". By contrast, Sitkin *et al*. (2011, p. 547) define a stretch goal as "an organizational goal with an objective probability of attainment that may be unknown but is seemingly impossible given current capabilities (i.e., current practices, skills, and knowledge)". Although there are differences in these notions of stretch goals, recent studies have emphasized their two main characteristics: (i) extreme difficulty, which refers to targets that have an extremely high level of difficulty and are nearly impossible to achieve, and (ii) extreme novelty, which implies that there is no clear direction to achieve those goals with current capabilities (Sitkin *et al*., 2011; Zhang and Jia, 2013, Pina e Cunha *et al*., 2017). Therefore, we rely on these two main characteristics including extreme difficulty and extreme novelty to determine stretch goals in our study. Substantial evidence has supported a positive linear relationship between stretch goals and organizational performance (e.g., Cyert and March, 1963; Locke and Latham, 1990; Smith *et al*., 1990; Chesney and Locke, 1991). However, the literature is still controversial about whether stretch goals have a positive or negative effect on organizational performance and under which conditions these effects prevail.

Specifically, advocates of stretch goals indicate that setting such goals might lead to riches for all organizations. For example, they argue that stretch goals motivate individuals to focus on pursuing those goals rather than other outcomes (Locke and Latham, 1990, 2002). In addition, stretch goals may foster individuals to search for and develop new directions and strategies to improve organizational performance (Wood and Locke, 1990; Locke and Latham, 2002). In other words, stretch goals positively affect organizational performance by encouraging risk-taking; promoting innovation, creativity, and new ways of thinking; avoiding complacency, guiding effort, and cultivating persistence (e.g., Hamel and Prahalad, 1993; Rousseau, 1997; Kerr and Landauer, 2004; Shinkle, 2012).

However, the adoption of seemingly impossible goals as a motivational technique to improve organizational performance is questioned by some researchers. For instance, some find an inverted U-shaped relationship between goal difficulty and performance; in other words, performance and effort peak when moderate goals are set, but reduce with both very easy and extremely difficult goals (Atkinson, 1958; Vroom, 1964; Erez and Zidon, 1984). Extending these findings, Garland (1984) suggests that such an inverted U-shaped relationship between goal difficulty and performance is more likely to be found when incentive compensation is the only tool used to achieve goals. In addition, by relying on the perspective of the resource-based view, Mosakowski (1998) concludes that goal difficulty and organizational performance have a complex relationship in which goal difficulty makes organizations more likely to engage in high-risk strategies that increase the probability of negative outcomes at the expense of positive ones. Similarly, Gary *et al*. (2017) state that stretch goals have no positive effect on organizational performance when they increase the willingness to take risks, weaken goal commitment, and generate lower risk-adjusted performance. This evidence is also in line with the finding of Audia *et al*. (2000) that setting unattainable goals may actually reduce performance compared with easier goals. Likewise, Beilock and Carr (2005) and Webb *et al*.

(2013) suggest that the high pressure and perceived stress caused by stretch goals can reduce the cognitive ability of employees to identify new process efficiencies, thereby lowering their productivity. Moreover, Ordonez *et al*. (2009) and Kerr and LePelley (2013) argue that the management literature has primarily focused on the benefits of stretch goals, while research on their negative outcomes is lacking.

In addition, a number of studies examine the conditions and mechanisms under which stretch goals may promote or disrupt organizational performance. Specifically, by applying referent cognitions theory to examine the relations among budget target fairness, budget process fairness, and performance, Libby (2001) finds that impossible goals only reduce organizational performance under unfair budgeting processes. Further, in an emerging-country setting, Zhang and Jia (2013) indicate that although stretch goals may intensify unethical behavior and relationship conflict among employees. Specifically strong informational justice climates (the extent to which employees perceive explanations for certain procedures or outcome) can greatly constrain the negative effects of stretch goals on unethical behavior, while strong interpersonal justice climates (the extent to which authorities treat employees with dignity and respect while carrying out procedures or determining outcomes) can greatly reduce the negative effects of stretch goals on relationship conflict. On the contrary, Zhou *et al*. (2019) propose an integrative framework of exploratory bricolage to explain how entrepreneurs in emerging countries such as China can realize stretch goals under resource constraints by creating radical innovation based on local search. Meanwhile, by drawing on the perspective of self-determination theory in psychology to investigate the motivational underpinnings that support the effectiveness of stretch goals, Pfister and Lukka (2019) suggest that stretch goals require a specific interrelation with personnel and cultural controls to facilitate the autonomous motivation necessary for employees to be creative. This recent finding stresses the importance of other control devices on the outcomes of stretch goals. Relatedly, Clor-Proell *et al*. (2015) study how both the difficulty in meeting budgets and the availability of promotion opportunities in an organization affect employee fraud, showing that employees tend to behave less fraudulently in response to extremely difficult cost goals when promotion opportunities are available than when they are not. Although the empirical study of Clor-Proell *et al*. (2015) suggests that difficult goals and promotion opportunities interact to affect employee fraud, evidence on how incentive compensation – another important control device – has been used to enhance the effectiveness of stretch goals is missing. To address this issue, we draw on a comparative case study of MTUni and Furniture Company, for which the theoretical background and methodology are described in the following section.

3. Theoretical background

According to the theoretical propositions put forward by Sitkin *et al*. (2011), recent performance and the level of slack resources are two key contingency factors determining the effects of stretch goals on organizational learning and performance. Specifically, Sitkin *et al*. (2011) argue that the use of stretch goals in organizations with strong (weak) recent performance positively (negatively) affects organizational learning and performance. In addition, they suggest that the use of stretch goals in organizations with high (low) slack resources positively (negatively) affects organizational learning and performance. Sitkin *et al*. (2011) paradoxically propose that organizations with stronger (weaker) recent performance are less (more) likely to use stretch goals, while organizations with greater (lesser) slack resources are less (more) likely to adopt stretch goals.

To illustrate how slack resources and recent performance influence the facilitative and disruptive effects of using stretch goals on organizational learning and performance as well as the likelihood that organizations actually adopt stretch goals, Sitkin *et al*. (2011) reveal the paradox of such goals (see Figure 1). They believe that stretch goals have the most facilitative impacts on organizational learning and performance when organizations have both high slack resources to reduce the risk of trying stretch goals and the advancing impetus of recent performance success; however, paradoxically, those organizations are the least likely to adopt stretch goals, which require risk tolerance and radical change (Cell 2 in Figure 1). Conversely, according to their propositions, stretch goals have the most disruptive effects on organizational learning and performance for organizations with poor recent performance and limited slack resources, but those organizations are most likely to apply stretch goals to overcome past failure (Cell 3). Regarding organizations with strong recent performance and low levels of slack resources (Cell 1), Sitkin *et al*. (2011) believe that they have a lower likelihood of pursuing stretch goals than organizations situated in Cells 3 and 4 when recent performance is considered to be a stronger factor than slack resources in guiding organizational action. In turn, they predict that organizations in Cell 1 have neutral to disruptive effects on organizational learning and performance due to limited slack being a more significant factor than strong recent performance in affecting organizational learning and performance. On the contrary, organizations that have high slack resources and weak recent performance (Cell 4) are more likely to use stretch goals than organizations in Cells 1 or 2, which have neutral to facilitative effects on organizational learning and performance.

Figure C 1. The Paradox of Stretch Goals

		Slack resources: Low	Slack resources: High
Recent performance	High	Effect of use: Neutral to disruptive Likelihood of use: Low Cell 1	Effect of use: Most facilitative Likelihood of use: Lowest Cell 2
	Low	Cell 3 Effect of use: Most disruptive Likelihood of use: Highest	Cell 4 Effect of use: Neutral to facilitative Likelihood of use: High

Source: Adapted from Sitkin *et al*. (2011, p. 557)

4. Research methods

4.1. Data collection

To answer our research question, we adopt a multiple case study method and study two organizations experimenting with stretch goals. A multiple case study is deemed to be the most appropriate method to study the complex social processes within organizations around stretch goals (Scapens, 1990) as well as the cumulative characteristics of organizational change and changes in management accounting processes (Burns and Baldvinsdottir, 2005). Similarly, Lillis and Mundy (2005, p. 122) argue that multiple case studies "can detect and document variation in interpretations of practice defined variables […] or theory-defined variables with a 'social' interpretation such as 'goal difficulty' or 'flexibility'". The organizations we study are MTUni, a public Vietnamese university, and Furniture Company, a privately owned

Vietnamese manufacturing company. Because MTUni and Furniture Company represents two completely different organizational forms – a public organization owned by the state for the purpose of achieving social objectives and public welfare and a private organization owned by private individuals or enterprises with aim of maximizing profits, the difference in the use of management accounting practices of these two organizations allows us to have a better overview of how incentive compensation is used to address stretch goal.

We rely heavily on data collected through extensive interviews and discussions with the key employees in both organizations between 2017 and 2020. In total, 44 interviews were conducted: 23 interviews at MTUni between 2017 and 2020 and 21 interviews at Furniture Company between 2018 and 2019 (see appendix Table A1 for the list of interviews). The interviews ranged from 20 to 120 minutes (average 57 minutes). Twenty of the 23 interviews at MTUni and 11 of the 21 interviews at Furniture Company were voice recorded; the remaining interviews were not recorded at the wish of interviewees because of discussing sensitive issues around control systems and personal goals and compensation. For the unrecorded interviews, we took extensive notes during the interviews and transcribed them into complete sentences on the same day. The key employees including the senior managers and mid-level managers who were primarily responsible for setting or achieving stretch goals were interviewed more than once and at different points in time to allow us to ask follow-up questions and validate the earlier evidence collected in the case organizations. In addition to interviews, we accessed internal documents as well as policy documents and reports relating to incentive compensation and stretch goals.

4.2. Data analysis

Based on the theory and literature review above, we clustered our findings into three main groups. While some findings emerged inductively from our cases, the below structure largely rests on the prior literature and its current gaps. This combination of inductive and deductive approaches renders our overall research as abductive (Lukka and Modell, 2010). The first topic, which is discussed in Section 5.1, deals with the background and situation of MTUni and Furniture Company before they set stretch goals. Here, we analyze the two organizations' recent performance and level of slack to examine their effects on stretch goals and organizational performance, as proposed by Sitkin *et al*. (2011). The second topic, detailed in Section 5.2, concerns the adoption of stretch goals, particularly why they were introduced in the two organizations. The next topic, which is presented in Section 5.3, concentrates on the role of incentive compensation in achieving stretch goals. Here, we focus on how incentive compensation influences the expected impact (positive versus negative) of stretch goals on organizational performance. Finally, we compare the extent to which incentive compensation helped achieve the stretch goals in each case organization.

For qualitative accounting research, the authenticity, credibility, and plausibility of the research findings are important hallmarks (Lukka and Modell, 2010; Messner *et al*., 2017; Parker, 2012; Parker and Northcott, 2016). These attributes can be supported by including concise quotations from interviewees to illustrate the findings (Messner *et al*., 2017). As all our interviews were held in Vietnamese, the quotations presented in the findings section needed to be translated into English, which risked not retaining interviewees' original meaning (Feldermann and Hiebl, 2020; Humphrey and Gendron, 2015). To mitigate this risk, the first author, who is fluent in Vietnamese and English, provided the initial translation and the second author, who does not speak Vietnamese, challenged the quotations' meanings. As argued by Feldermann and Hiebl (2020), accurately translating quotations' meanings into English is important for securing the authenticity and plausibility of the findings.

5. Findings

5.1. The situation before adopting stretch goals

5.1.1. The case of MTUni

MTUni is an established university in Vietnam that offers education and training as well as both undergraduate and postgraduate degrees. The financial status of MTUni has recently declined for two main reasons. First, in 2010, the Vietnamese government began to gradually reduce its subsidies for public universities to encourage them to move toward financial autonomy. Second, because of a change in the policy of entrance examinations for admission into public universities in Vietnam as well as a significant decline in labor demand for the industries and fields to which MTUni mainly caters, the number of students enrolled at MTUni has dropped sharply, which has reduced its revenue from tuition fees.

Like many Vietnamese public universities, the majority of MTUni's lecturers have traditionally been tenured employees not only working in long-term indefinite service positions but also entitled to the salary regimes prescribed by the Vietnamese government. However, according to Vietnamese public discourse, because tenured public employees are paid a fixed and equal salary regardless of their performance, it eliminates their motivation to strive for high productivity and performance. As a result, some Vietnamese politicians and media outlets consider tenured public positions to be one of the reasons behind the poor performance of public organizations. A similar picture was also found at MTUni. In particular, the Board of Rectors at MTUni believed that the Vietnamese government's policy on faculty members at public universities reduced their motivation to strive for high performance due to their stable job positions. In addition, senior and mid-level managers at MTUni admitted that because the controls at MTUni including incentive compensation and performance evaluation were not fully implemented due to Vietnamese culture, faculty lecturers easily earned all incentives regardless of their work results. In the words of one of our informants:

> The additional salary in the faculty is based on the university's revenue … and divided equally to everybody working in the university. This means that everyone receives the same amount of [additional] money regardless of how well they work. High- and low-performing workers receive the same amount of money, which does not encourage employees to work more. (Interview, Former Director of Construction College, 2018)

Although MTUni's revenue had declined in the years before our investigation, most senior managers and college managers asserted that it had a high level of slack resources in terms of facilities and human resources. In particular, despite state subsidies having been cut, the majority of infrastructure investments and operating expenses at MTUni such as the salaries of lecturers and management staff were still paid by the state budget. Therefore, the Board of Rectors of MTUni believed that unused resources were available. They further assumed that these slack resources could be used to increase MTUni's revenue by competing with external organizations in the open market (e.g., faculty members providing consulting services in science and technology and technology transfer services). According to the Head of the Central Office of Construction College:

> In the eyes of [the Board of Rectors at] MTUni, external companies have a lot of [consulting and technology transfer] projects, make a lot of money, and pay their own employees. Meanwhile, the facilities and salaries of lecturers at MTUni are covered by the state. Therefore, the Board of Rectors at MTUni has said that there is no reason why the subordinate units at MTUni [e.g., faculties, colleges] cannot do this [as external companies have done]. (Interview, Head of the Central Office of Construction College, 2018)

In addition, most of our interviewees claimed that MTUni's lecturers were redundant, as the number of students enrolled at MTUni has been declining in recent years. Indeed, some departments had no students and lecturers were left with no lecture hours. They attributed this trend to the fact that many Vietnamese students were now trying to land more prestigious jobs such as physicians and engineers than working in the less attractive forestry industry. One of our interviewees added:

> Currently, MTUni has a surplus of human resources such as lecturers. Some departments have no students, so there are lecturers who do not have lectures in the classroom. In addition, MTUni's campus is spacious, so MTUni does not use all its facilities for training or scientific research. (Interview, Head of the Finance and Accounting Department of MTUni, 2019)

In short, MTUni experienced weak recent performance in scientific research and declining revenue, while showing a high level of slack (e.g., human resources and facilities). Therefore, it would be situated in Cell 4 in Figure 1, meaning that the likelihood of using stretch goals to increase performance was high, but that actually using stretch goals would have neutral to facilitative effects on its performance.

5.1.2. The case of Furniture Company

Furniture Company was established in early 2000 and, at the time of our investigation, had developed into one of the largest private furniture manufacturing enterprises in Vietnam. Furniture Company's products are exported to international markets such as the United States, Europe, Russia, and Japan. The company is also a key supplier for HouseCo, a large European furniture company[3]. By focusing on technological process innovations such as automation, thus reducing manual labor, improving the quality of human resources, and raising management capacity, Furniture Company has performed strongly in recent years and was growing year-on-year. Specifically, 20 years after its foundation, it had expanded its production scale from one factory to eight factories with nearly 3,000 employees. In addition, Furniture Company's revenue in 2019 was 67% higher than that in 2018, while export orders increased by 40%, helped mainly by exports to European markets for HouseCo. Indeed, the company had not only increased product exports to international markets but also started to build its domestic brand in recent years to reduce its dependence on HouseCo and diversify its customer base. Notably,

[3] We have changed the company name to preserve its anonymity.

Furniture Company had never experienced a year of poor performance, as explained by the Deputy Director:

> Our company has never experienced an economic crisis or poor performance. Our company has constantly grown year-on-year […] Growth here means that the company produces at a good price and good quality so that it induces customers to return and buy more. (Interview, Deputy Director of Furniture Company, 2018)

However, although Furniture Company's growth was stable, the majority of senior and mid-level managers argued that it had a low level of slack resources, as it dedicated existing resources to expanding its number of factories and improving capacity. One interviewee explained:

> We do not have idle resources that have not been implemented. We always take full advantage of all resources to expand factories and capacity […] If there are excess financial resources, we continue to spend on expanding production and business activities. We do not have a lump sum of money here for use. (Interview, Deputy Director of Furniture Company, 2019)

Furthermore, it was widely believed among our interviewees that Furniture Company did not have a high level of slack in terms of non-financial resources such as human resources, equipment, and infrastructure, as it was using every available resource to maximize profits, improve productivity, and reduce costs. For instance, the Production Manager of Factory A added:

> We must always find a way to optimize production and reduce costs as much as possible by taking advantage of excess production materials or cutting labor costs […] For example, we have to find ways to boost capacity and reduce inventory, while maintaining the same number of workers. Even for raw materials discarded such as wooden boards in the manufacturing process, we also sought to use them to reproduce into other products. (Interview, Production Manager of Factory A, 2019)

In summary, Furniture Company showed strong recent performance but a low level of slack, thus likely falling into Cell 1 of Figure 1, defined as having a low likelihood of using stretch goals, which – if used – would have neutral to disruptive effects on its performance.

5.2. The introduction of stretch goals

5.2.1. The case of MTUni

After seeing a significant decline in revenue owing to changes in government subsidies and tuition fees, MTUni's Board of Rectors decided to increase other sources of revenue through the provision of science and technology services in the open market starting in 2010. To do so, MTUni upgraded its faculties to colleges, which would operate in the market like private enterprises. MTUni hoped that these newly established colleges would not only reduce their dependence on financial aid from MTUni's central administration but also increase their revenue, which would eventually lead to their financial autonomy. Furthermore, the establishment of colleges was expected to motivate lecturers to increase their scientific research and technology transfer activities, because, in the new model, their individual income would depend more on the results of their own work than previously, as explained by Vice-President No. 1 of MTUni:

> We think colleges could also benefit from this model […] This model is used to stimulate growth. It is different from the "all are equal" model of a faculty. Salaries for all employees in faculties are 100% the same, while people in colleges will earn more if they work more. This model is similar to that of private enterprises. (Interview, Vice-President No. 1 of MTUni, 2017)

From 2013 to August 2019, four faculties were upgraded to colleges (from the perspective of MTUni's Board of Rectors at least): Microbiology College, Botany College, Construction College, and Estate College. Although MTUni wanted all faculties to become colleges, five remained as faculties. The managers of these remaining faculties, such as the Faculty of Economics and the Faculty of Politics, argued that they were ineligible for upgrading because they had almost no science and technology activities and no potential to develop such in the foreseeable future.

To become financially autonomous units, colleges had to set up their own accounting departments, formulate a business strategy, set annual budgets, and adhere to the university's spending regulations. Further, they not only had to report their accounts to MTUni and Vietnamese authorities but also had to pay a proportion of their revenue to MTUni as well as fulfill tax obligations to the government.

Besides the two traditional tasks of teaching and researching, colleges also had the third task of providing science and technology services such as consulting and technology transfer. While the goals of teaching and scientific research at colleges remained unchanged compared with those of faculties, MTUni changed the financial goals for its colleges twice from 2017 to 2018. Specifically, in early 2017, the basic salary was a fixed monthly salary that each lecturer would receive according to the state regulations, while the additional salary of each lecturer would depend on the results of their work evaluation (A, B, or C). Before establishing colleges, the lecturers at faculties were paid both basic and additional salaries by MTUni's central administration. However, from 2017, to encourage financial autonomy among colleges and eliminate the policy of all employees receiving an equal salary payment, MTUni imposed two financial goals on colleges. First, MTUni gradually reduced its subsidies for additional salary payments and instead required colleges to be accountable for paying the additional salary to their employees. For example, in 2017, MTUni only paid 40–50% of the additional salary for colleges' lecturers, while colleges had to use their own revenue or budget to pay the remaining 50%. By 2020, colleges would have to pay 100% of the additional salary for their employees. Second, in addition to the goal of paying 40–50% of the additional salary for colleges' lecturers, MTUni imposed financial contribution targets on colleges (i.e., they would have to contribute

5–6% of their revenue to MTUni in 2017). In other words, the colleges had to fulfill these two financial goals that MTUni assigned to them including the level of financial contribution of MTUni and the level of the additional salary to lecturers as these two financial targets would be used as one of criteria for evaluating their performance.

However, after witnessing the failure of colleges to achieve MTUni's financial targets as well as the strong opposition of colleges' leaders and lecturers at the end of 2017, MTUni changed its policy at the beginning of 2018. Specifically, MTUni applied fixed financial contribution targets to colleges instead of the flexible financial contribution in 2017. For example, in 2018, MTUni imposed financial contribution targets of 147 million VND, 119 million VND, 136 million VND, and 79 million VND for Microbiology College, Botany College, Construction College, and Estate College, respectively. Meanwhile, the senior managers of MTUni decided to pay 100% of the additional salary to lecturers, but on the condition that colleges had to meet their financial contribution targets. For example, MTUni would initially only pay 60% of the additional salary to lecturers at Botany College. Whether MTUni would pay the remaining 40% depended on the extent to which Botany College achieved the fixed financial target imposed by MTUni.

MTUni relied on colleges' past revenue, including the recently signed contracts between them and their external partners, to set their financial contribution targets. However, Vice-President No. 1 of MTUni added:

> MTUni also has adjustments to financial targets for each unit. However, these financial targets will tend to increase rather decrease. MTUni still decided to increase the financial targets for the colleges to pressure the leadership. (Interview, Vice-President No. 1 of MTUni, 2019)

Although the Board of Rectors had changed colleges' financial targets, college managers still indicated that such goals were too high compared with their capabilities. The Director of Microbiology College remarked:

> The financial goals that MTUni set for colleges in 2018 were relatively difficult to achieve given that technology transfer is a completely new activity for college members, which makes it difficult for colleges to compete with outside companies. (Interview, Director of Microbiology College, 2019)

Notably, MTUni's Board of Rectors allowed college managers to manage the salaries of their employees to motivate them to actively participate in business activities. Specifically, they were empowered to deduct the additional salary from low-performing lecturers and use that money to meet their financial goals. For example, the Director of Estate College explained:

> When lecturers receive enough salary, they are satisfied with their life. Therefore, they do not pay much attention to science and technology services […] Therefore, in this year [2018], the university changed the policy that colleges are allowed to collect the amount of money from evaluating their employees' performance on a scale of A, B, and C. And they can use that money to fulfill their financial obligations for the university. (Interview, Director of Estate College, 2018)

Along with traditional evaluation criteria related to training and scientific research activities, college managers had to design their own criteria to evaluate the business performance of their staff to motivate them to achieve new business goals. Similarly, the financial targets that MTUni imposed on colleges were used to assess the performance of college managers. Thus, college managers appeared to be solely responsible for achieving the financial goals. If college managers did not achieve the financial goals imposed by MTUni for two consecutive years, their position would be reviewed and reassessed. As a result, the main incentive of college leaders in achieving these financial goals was to maintain their managerial position as well as their career advancement.

In summary, we treat the financial goals that MTUni imposed on colleges in 2017 (e.g., paying 50% of the additional salary to their employees and contributing 5–6% of their revenue to MTUni) and in 2018 (e.g., making a fixed financial contribution to MTUni) as stretch goals because they meet both the criteria of Sitkin *et al*. (2011), namely, extreme difficulty and extreme novelty. Specifically, most college members complained that the financial goals imposed by MTUni were difficult to achieve. Moreover, because the primary mission of college members was to teach and research in accordance with the regulations of the Vietnamese government, business activities were relatively new to them. Therefore, they lacked the experience, clear direction, and strategy to achieve those stretch goals.

5.2.2. The case of Furniture Company

In 2018, Furniture Company started to apply the kaizen approach in its production activities due to pressure from HouseCo. As 70–90% of its revenue came from HouseCo, Furniture Company had been under great pressure to meet the new requirements of HouseCo in recent years, as these new requirements increased its production cost. The Deputy Director of Furniture Company explained:

> A lot of change is needed to meet the requirements of imported products such as import/export documents, proof of origin, and the weight of the products that are controlled tightly […] There are additional costs. Actually, these costs are due to additional jobs. (Interview, Deputy Director of Furniture Company, 2018)

In addition, HouseCo pressured Furniture Company to cut its average product price for selling to HouseCo by 2% per year. If Furniture Company did not meet this annual price reduction requirement, HouseCo might cancel orders and switch to cheaper Vietnamese suppliers. The Production Manager of Factory A remarked:

> HouseCo requires us to make a 2% discount every year. This annual discount target provides us with quite a headache […] If the price cannot be reduced, both sides will meet to find out the reasons. Second, if it

> cannot be reduced and the price stays the same, cooperation will be reduced and orders will be reviewed. (Interview, Production Manager of Factory A, 2018)

Because most of the employees in the Furniture Company were unfamiliar with continuous improvement activities, the company sent managers from production managers to team leaders to participate in training courses on kaizen model to raise their awareness and expertise on this issue. To promote continuous improvement activities, the board of directors of Furniture Company started to apply the kaizen model including setting continuous improvement goals, evaluating and measuring improvement initiatives, and offering rewards. The company established a Continuous Improvement Board to design evaluations and rewards for improvement activities. To signal top management attention, the chair of Furniture Company served as the head of the board; other members included the managers of the electromechanical department, managers of the quality department, production managers of the manufacturing factories, and managers of the workshops. Apart from the main Continuous Improvement Board, each factory also had its own continuous improvement subcommittee including production managers, supervisors, team leaders, group leaders, and members of the electromechanical department. Furniture Company's board set a goal that every employee in every factory and department needed to produce at least one continuous improvement initiative per month based on the kaizen model as well as the continuous improvement goal of the Toyota Group. Although the senior managers of Furniture Company acknowledged that this goal was extremely difficult to accomplish, they expected it to motivate all staff to produce as many innovations as possible. The Production Manager of Factory B added:

> The board of directors set the goal of continuous improvement based on the model of Toyota […] Although the goal of continuous improvement is very high, senior managers think that it is the goal for every factory to strive to achieve as many improvements as possible. (Interview, Production Manager of Factory B, 2019)

Mid- and low-level managers had the mission of launching the continuous improvement initiative to their subordinates as well as synthesizing and reporting the improvement ideas to the Continuous Improvement Board for evaluation. After that, the Continuous Improvement Board would review and evaluate the improvement initiatives quarterly. The report format would include categories such as improvement in productivity, quality, safety, and the environment. In the continuous improvement reports, mid-level managers and some low-level managers such as supervisors had to show the results for before and after the improvement by estimating the money that could be saved from applying the improvement initiatives. It was also necessary to not only indicate the costs incurred from these activities but also show that the benefits outweighed the costs of implementing such initiatives. The last section of the report asked for information about the proposer of the improvement initiatives, electromechanical department members improving or modifying production equipment according to the proposed improvement initiatives, and workers implementing the improvement initiatives.

After that, the improvement reports were synthesized and submitted to the Continuous Improvement Board for evaluation and grading. The score of the improvement initiatives depended on the evaluation of each board member. The board relied on two main criteria to evaluate the improvement ideas: economic effectiveness (the more economically beneficial an initiative was, the higher the score for that initiative would be) and universal applicability (if an initiative could be applied in other factories, it would be more appreciated than one that could only be applied locally). However, because the accounting department of the company was not involved in evaluating innovative ideas as well as the company did not have a specialized department to evaluate these improvements, the company’s assessment of improvements was still relatively subjective and mainly based on the feeling of each person as one of my informants remarked:

> The results and figures for the implementation of the improvement initiatives are based on the subjective opinion and feeling of each person. Right now, the company does not have any department to re-evaluate whether the results are true or not. The senior managers also use speculations and feeling to guess whether it is achieved or not. The company does not have any measurement to do that. Their estimation are very vague. (Interview, Former Secretary of the Continuous Improvement Board, 2018)

In 2018, the company started applying key performance indicators (KPIs) to evaluate the performance of managers including the production managers of factories, supervisors, team leaders, and group leaders. The KPIs consisted of seven categories, with productivity considered to be the most important criterion and continuous improvement activity considered to be the least. The Production Manager of Factory B explained:

> As productivity is the most important indicator, the score of that item will be multiplied by 20 points, for example. Meanwhile, the score of continuous improvement will only be multiplied by four or five points. (Interview, Production Manager of Factory B, 2018)

In addition to having at least one improvement initiative per month, mid- and low-level managers were responsible for the KPIs of their factories and workshops. Specifically, the goal that every worker in the factory had to produce at least one improvement initiative per month was also an indicator to assess the KPIs of the factory. As the Production Manager of Factory B stated:

> The continuous improvement item has a scoring scale of one to four points. For example, if no one in our factory offers any improvements, we receive zero continuous improvement points in our KPIs. If 30% of the workers in our factory or fewer make a continuous improvement suggestion every month, we only gain one point. If 75% or more workers offer improvement ideas, we receive the maximum score. (Interview, Production Manager of Factory B, 2018)

The company only applied the KPIs to evaluate managers' performance but not that of workers. The performance evaluation indicators of workers only included attendance and productivity.

In addition, the company adopted two reward policies to encourage employees to make improvements. First, after evaluating and scoring the improvement initiatives, the Continuous Improvement Board would reward those improvement initiatives quarterly. The bonus provided by the Continuous Improvement Board would correspond to the score of those improvement initiatives that had been achieved. In other words, the higher the economic benefits and efficiency brought to the company by the improvement ideas, the higher the rewards received by the candidates would be. However, the total amount of bonuses that the Continuous Improvement Board spent on the improvement initiatives was variable because it depended on the company's budget. The company's second reward policy for continuous improvement activities was that production managers were empowered to offer instant rewards to workers if they had good improvement ideas. Specifically, the production managers and supervisors in the workshops offered instant rewards of 100,000 VND and 40,000 VND, respectively to subordinates without having to wait for the approval of senior managers if those improvement initiatives were applied successfully.

In short, the goal that everyone in the company had to produce at least one continuous improvement initiative each month was considered as a stretch goal because it was extremely difficult and extremely novel. In particular, although the number of improvements had increased dramatically after the application of the kaizen model, mid- and low-level managers acknowledged that this goal was too high to achieve for two consecutive years. Moreover, Furniture Company staff were only trained to achieve production goals, whereas improvement activities, which required creativity, exploration, and economic thinking, were relatively new to them. Therefore, they lacked the specific direction to achieve this goal.

5.3. The role of incentive compensation in meeting stretch goals

5.3.1. The case of MTUni

From the establishment of colleges until the end of 2017, most colleges encountered difficulties in achieving the stretch goals of MTUni when they had a limited number of consulting and technology transfer projects. Therefore, college managers decided to only contribute 5% of their revenue to MTUni and did not pay 50% of the additional salary to their lecturers, believing that the goal of making a financial contribution to MTUni was more important. One college manager remarked:

> Last year [2017], we also set a financial goal with aim of paying the additional salary to our staff. But whether or not we paid the additional salary to our staff, it didn't affect us very much […] Since the university didn't have clear regulations on making additional salary payments for college employees, we didn't have pressure to achieve these financial goals. (Interview, Director of Estate College, 2018)

In other words, since the additional salary of college lecturers represented both the stretch goals and incentive compensation of college lecturers to achieve stretch goals, the college managers reducing the additional salary of their lecturers allowed them to lower their stretch goals as well as secure their career advancement. At a meeting with all faculty and college lecturers at the end of 2017, MTUni's stretch goals were strongly opposed by college lecturers. Specifically, they argued that MTUni's incentive scheme for college members was unfair compared with that for faculty members. In particular, they pointed out that although they also completed the same number of assigned teaching and scientific research hours as those of faculties, their additional payments were lower than those of faculty members. One of our interviewees explained:

> Our staff … are envious of the staff of faculties. They argued why MTUni cut their salaries when they also completed the same tasks as regular faculty lecturers. (Interview, Head of the Central Office of Construction College, 2018)

As in 2017, college directors stated that they had few or no consulting and technology transfer activities in 2018. As a result, colleges did not generate enough revenue from science and technology projects to achieve the stretch goals set by MTUni's Board of Rectors. However, most still achieved MTUni's stretch goals, as college managers temporarily collected a proportion of lecturers' salaries to fulfill their financial obligations to MTUni. After colleges achieved their stretch goals, MTUni paid the remaining 40% of the additional salary to college lecturers. Therefore, although the salaries of lecturers were still relatively high, they remained below 100% of the additional salary due to the deduction of college managers. Meanwhile, the directors of colleges achieved the stretch targets of MTUni and maintained their managerial positions without taking part in business activities. The Deputy Director of Microbiology College added:

> Last year [2018], nearly all colleges met the financial targets set by MTUni. However, achieving such goals was mainly facilitated by the deductions of employees' salaries, rather than from science and technology services. It mainly came from personal contributions. Although colleges met MTUni's financial goals, this is unsustainable … because we cannot collect from our employees forever. (Interview, Deputy Director of Microbiology College, 2019)

Colleges' solution to collect a proportion of lecturers' salaries as a way to achieve their stretch goals was not approved by MTUni's Board of Rectors. MTUni's senior managers believed that this approach would reduce the motivation of colleges to increase their revenue through business activities. Vice-President No. 1 of MTUni remarked:

> MTUni wants the establishment of colleges to help those units become financially self-sufficient and improve their scientific research as well as technology transfer activities. The fact that colleges fulfilled their financial obligations by deducting salaries from their staff did not please the Board of Rectors. (Interview, Vice-President No. 1 of MTUni, 2019)

Meanwhile, college lecturers continued to oppose MTUni's incentive compensation by pointing out the inequity between the incentive scheme of colleges and that of faculties. In particular, they claimed that they also performed the same academic tasks as faculty lecturers did, but their salaries were lower. Furthermore, college lecturers opposed the stretch targets that MTUni imposed on their colleges in 2018. Specifically, they complained that they participated in service and business activities to raise their income. However, when the university required its colleges to fulfill such high financial contribution targets, it would affect their income. One of our informants explained:

> Of course, they [college lecturers] opposed the financial contribution goals of MTUni. They think that because of this their additional salary is reduced. Because of this financial concern, many faculties do not want to be converted into colleges. (Interview, Director of Construction College, 2019)

Notably, it was believed that the main reason for colleges' failure to achieve MTUni's stretch targets was the Vietnamese government's incentive scheme for tenured public employees, particularly lecturers at public universities. In particular, the economic pressure on lecturers was relatively low because their salaries and jobs were guaranteed by the regime and policies of the Vietnamese government. Because their main jobs were teaching and researching, they felt that stretch goals were unnecessary. In addition, because lecturers were paid the same for teaching and researching regardless of their performance, they had no incentive to improve their scientific expertise and knowledge. Such low levels of scientific expertise also made college lecturers more hesitant to strive to meet the stretch goals. Moreover, college managers believed that because college lecturers accepted a leisurely job with stable wages at MTUni, they tended to focus on teaching tasks rather than participate in those challenging jobs. For example, one of our informants explained:

> They want to participate only in teaching and training to be paid from the state budget, Thus, we don't have employees who want to engage in scientific and technology services. Many of them are unaccustomed to

> pressure […] Some employees fail to participate in technology transfer because they are not skilled enough to do it, while others do not want to do it because they only need a basic salary to be able to live. They do not want to devote more time to foster more knowledge or learning to meet the needs of outside projects. (Interview, Former Director of Construction College, 2017)

In short, although MTUni changed its stretch goals twice (in 2017 and in 2018), colleges still saw almost no improvement in their performance of academic and business activities. In addition, one important factor fostering the disruptive effects of stretch goals was the Vietnamese government's incentive scheme for tenured public lecturers. In particular, because lecturers at MTUni had benefited greatly from the Vietnamese government's policies including steady pay and a secure job without having to strive for high performance, they had no incentive to improve their scientific expertise, knowledge, and marketable skills to participate in external business activities; they were also used to preferring light rather than challenging work. However, to pressure college lecturers to participate in business activities and achieve the stretch goals, MTUni chose to cut their salaries. This caused those employees to have a negative outlook on the emergence of western management accounting practices including the business model of the college and the stretch goals as it affects negatively their economic interests such as salaries or work effort. Furthermore, the fact that MTUni's incentive scheme was considered to be unfair among faculty and college members triggered strong opposition from college lecturers toward MTUni's stretch goals in particular and business models in general. Meanwhile, since MTUni placed enormous pressure on college managers to reach its stretch goals, it led those managers to engage in fraudulent behaviors such as manipulating targets or revenues to achieve the imposed stretch goals due to their fear of losing their managerial positions.

5.3.2. The case of Furniture Company

After Furniture Company decided to institutionalize the kaizen approach in its operations by imposing stretch goals, developing evaluation criteria, and offering rewards for continuous improvement activities, the number and quality of improvement initiatives in 2019 increased significantly compared with in 2018. However, only mid-level managers such as production managers of the factories and some low-level managers including supervisors and team leaders of the workshops were striving to reach the stretch goals. For instance, the Secretary of the Lean Sig Sigma Committee said:

> While it is not possible to have all the workers in the factory produce improvement ideas every month, the number of improvements is increasing every year. The factories are becoming more and more innovative and they are also aiming for continuous improvement […] However, this habit has stopped at production managers, supervisors, and team leaders; workers have not formed it yet. (Interview, Secretary of the Lean Sig Sigma Committee, 2019)

Most mid- and low-level managers did not object to the continuous improvement goal, even though it was extremely difficult to achieve. In particular, most production managers felt little pressure to achieve the stretch goal of continuous improvement imposed by the board of directors, as explained by the Production Manager of Factory A:

> We are not under pressure by that goal. The company only encourages everyone in the company to participate in continuous improvement; it does not force everyone to participate in it. Continuous improvement requires creativity and cannot be forced. If the company forces everyone to innovate at all costs, there will never be good innovations. (Interview, Production Manager of Factory A, 2019)

Indeed, low-level managers including supervisors and team leaders of the workshops were excited to produce new improvement ideas. One of our informants said:

> No, we do not feel any pressure. The board of directors does not force us to produce innovation initiatives. On the contrary, it encourages us to produce innovation initiatives regardless of the amount of improvement.

> Any improvement, even if it is small, is valuable. Everyone is excited to participate. (Interview, Supervisor of Factory B, 2018)

Another reason why production managers of the factories did not feel pressured to achieve the stretch goal was that continuous improvement only accounted for a relatively low proportion of evaluating the KPIs of managerial staff compared with other indicators such as productivity and quality. However, mid-level managers still believed that putting continuous improvement into their KPIs evaluation was one of the main motivations to strive for the stretch goal. The Production Manager of Factory B remarked:

> Managers are more actively involved in continuous improvement because it affects the KPIs as well as their salaries. Making improvements not only increases the score on the continuous improvement item but also increases other items in the KPIs of managers such as productivity. (Interview, Production Manager of Factory B, 2019)

Meanwhile, low-level managers including supervisors and team leaders believed that in addition to continuous improvement being included in the KPIs evaluation, their main motivation for attempting to meet the challenging goal of continuous improvement was an eagerness to learn and passion for their jobs. Moreover, they indicated that although the reward of the board of directors was not the main reason for them to aim for the stretch goal, it partially motivated them to engage in continuous improvement to gain recognition from senior management. According to the Supervisor of Factory B:

> We make continuous improvements because we simply like it. Continuous improvement helps us learn new things […] The bonuses of the Continuous Improvement Board for continuous improvement activities are not large, but it is a motivating factor for us to see. For example, when manager A sees manager B receiving the reward, manager A will try harder. Although it is only a small bonus, everyone is trying to gain the recognition of the company. (Interview, Supervisor of Factory B, 2018)

Further, production managers, supervisors, and team leaders of the factories believed that striving to reach the stretch goal of continuous improvement benefitted them when continuous improvement helped factories increase productivity or product quality and thereby improved the other indicators in their KPIs evaluation such as productivity indicator or quality indicator. That is, it would increase their KPIs, reputation, and salary. Further, the salary of production managers, supervisors, and team leaders depended on workers' productivity and income. Thus, if the productivity and salary of workers were lower than the standard set by the company, the salary of managers would fall.

However, relatively few group leaders and workers were striving to reach the stretch goal of continuous improvement for three main reasons. First, from mid-level managers' view, because group leaders were at the lowest management position in the factory (and thus the company), they also had less responsibility than supervisors and team leaders. At the same time, the continuous improvement indicator also occupied the lowest proportion of the KPIs evaluation. Consequently, reaching the stretch goal of continuous improvement did not impact their performance evaluation and income. Similarly, because the senior managers of Furniture Company set the goal that every factory worker must produce at least one improvement per month, it meant that the continuous improvement approach required wide participation of all employees at the company. However, the responsibility to pursue this stretch goal belonged mainly to production managers and low-level managers such as supervisors and team leaders rather than workers, whose performance was not evaluated by the continuous improvement indicator. Thus, workers had no incentive to participate in continuous improvement or achieve this stretch goal. In addition, group leaders and workers were not interested in reaching the stretch goal because of their level of expertise. In particular, our informants indicated that all management positions from production managers to team leaders were trained in the kaizen model, while group leaders were only briefly told about this model by their supervisors. As a result, group leaders did not understand this approach. Further, the skill level of group leaders and workers were relatively low, as most coming from remote mountainous areas were not well trained, making it difficult for them to carry out continuous improvement activities that required a deep understanding of production operations and processes. The employee turnover rate in the factories was also relatively high due to the unstable working environment and low salaries, meaning factory managers were constantly training new workers. This hindered workers from producing new ideas for improvement. For instance, the Supervisor of Factory A explained:

> As their production skills are not yet optimal, how can they think of an improvement? In addition, the worker turnover rate in here is very high due to the unstable salary and unsuitable work. We constantly have to train new workers and this takes a lot of time. (Interview, Supervisor of Factory A, 2018)

Further, because the wages of low-level managers and workers were not competitive enough, Furniture Company was unable to pressure them to reach the stretch goal for fear of them quitting their jobs. Similarly, the instant rewards for group leaders and workers offering improvement initiatives of 40,000 VND and 100,000 VND were also relatively low. The Manager of the Electromechanical Department of Factory A explained:

> Because the amount of instant bonuses is so low, almost no workers care about those bonuses. It's just a morale booster for workers. Factories also rarely offer instant bonuses. Rewards for continuous improvement come mainly from the Continuous Improvement Board. (Interview, Manager of the Electromechanical Department of Factory A, 2019)

Finally, the evaluation and scoring of improvements as well as the incentive compensation therein of the Continuous Improvement Board were relatively ambiguous since the evaluation of improvements was mainly based on the subjective opinions of each member while incentive scheme for improvement initiatives depended not only on the scores given by each member, but also on the company's budget. As a result, it became difficult for workers and group leaders to able to see the benefits of making improvements and thus reduces their motivation in achieving stretch goals. The Supervisor of Factory B remarked:

> We don't know how much the company will reward improvement ideas. The company's bonus will vary according to the company's budget […] In addition to reward, I do not see any other benefits for workers making improvements. (Interview, Supervisor of Factory B, 2018)

In summary, the senior managers of Furniture Company used incentive compensation such as rewarding improvement ideas and including continuous improvement in the KPIs evaluation to encourage employees to achieve the stretch goals rather than pressuring them. Specifically, although the workers' no interest in continuous improvement activities affected the improvement indicator in the KPIs evaluation of mid-and low-level managers, these managers did not feel pressured when continuous improvement activities only accounted for a relatively low proportion of KPIs evaluation. Therefore, if they failed to achieve the stretch goal, it did not have much impact on their interests such as salaries or bonuses. Opposite to being scared or feeling pressured, mid- and low-level managers felt excited and enthusiastic about striving for the stretch goals. In addition, the development of the KPIs evaluation as well as the reward system of the board of directors allowed production managers, supervisors, and team leaders to see the benefits of reaching the stretch goals, as the stretch goal of continuous improvement could boost their KPIs via not only continuous improvement indicator but also the other indicators such as productivity indicator or quality indicator, and thereby increase their income. On the contrary, having no or little responsibility for reaching the stretch goals, a lack of expertise, and low and ambiguous incentive compensation were the main factors that prevented group leaders and workers from striving to reach the stretch goal of continuous improvement.

6. Discussion and conclusion

Because the extant literature studying the impact of stretch goals on organizational performance has paid little attention to the role of incentive compensation, this research is the first empirical study of how incentive compensation can be used to meet stretch goals. In addition, emerging-country evidence is scarce on the application and usefulness of stretch goals. With this paper, by addressing these two important voids in the literature, we offer three main contributions, which are presented below.

First, our study highlights that according to the proposition of Sitkin *et al.* (2011), MTUni would fall into Cell 4 of Figure 1, as it has performed poorly recently and has a high level of slack resources, while Furniture Company would fall into Cell 1, as it has performed well recently and has a low level of slack. However, our evidence does not seem to support the suggestion of Sitkin *et al.* (2011). Specifically, the application of stretch goals at Furniture Company was contrary to their study, which suggests that the likelihood of using stretch goals would be low. In addition, our study indicates that the adoption of stretch goals at MTUni and Furniture Company can mainly be traced to pressure from external parties (i.e., the Vietnamese government and HouseCo) rather than from the two key contingency factors proposed by Sitkin *et al.* (2011). This is more consistent with prior management control research on emerging countries, which has, for instance, found that using management control instruments such as incentive payments to achieve challenging targets may be triggered by exogenous factors such as clients, competitors, and policymakers (e.g., Hiebl, 2018; Hopper *et al.*, 2009; Joshi, 2001; Ndemewah and Hiebl, 2021; van Helden and Uddin, 2016). In particular, the pressure exerted by external parties (e.g., HouseCo, Vietnamese government) was identified from the management accounting information of Furniture Company and MTUni, such as the increase in production costs at Furniture Company and the decrease in revenue at MTUni, both of which triggered the adoption of stretch goals. In contrast to the propositions put forward by Sitkin *et* *al*. (2011), our cases therefore suggest that the level of slack and recent performance cannot be the sole factors that determine the likelihood of using stretch goals but instead exogenous factors. While the need for change could be identified with the help of management accounting information, external pressure eventually led to the adoption of stretch goals. Our paper thus contributes to the literature on stretch goals by highlighting further potential triggers of their adoption.

Second, our study shows that the use of stretch goals at MTUni (Furniture Company) had disruptive (facilitative) effects on organizational performance. That is, our evidence contrasts with the conceptual study of Sitkin *et al*. (2011), which predicted that the use of stretch goals at MTUni (Furniture Company) would have neutral to facilitative effects (neutral to disruptive) on performance. In line with prior research on the conditions and mechanisms that impact the effectiveness of using stretch goals (e.g., Libby, 2001; Clor-Proell *et al*., 2015; Pfister and Lukka, 2019), we therefore argue that apart from recent performance and the level of slack resources, other factors determine the positive or negative effects of stretch goals on organizational performance. By drawing on a comparative case study of two emerging-country organizations in Vietnam that used incentive compensation to set stretch goals, our second contribution is to complement the proposition by Sitkin *et al*. (2011) by highlighting that the role of incentive compensation must additionally be considered to determine the effects of stretch goals on organizational performance.

In particular, the senior managers of MTUni decided to reduce the level of incentive compensation (e.g., reducing the additional salary of college lecturers, firing college managers if their financial contribution was insufficient) to pressure MTUni employees into achieving stretch goals. However, the removal of incentive compensation left these employees feeling that their interests and benefits had been jeopardized by the implementation of such goals. As a result, MTUni's incentive scheme intensified the disruptive effects of using stretch goals on organizational performance, as college managers engaged in fraudulent behaviors to retain their managerial positions and the setting of stretch goals was fiercely opposed by college lecturers. By contrast, senior managers at Furniture Company not only placed great pressure on its employees but also added an incentive compensation scheme to achieve its stretch goals. Hence, unlike the case of MTUni in which stretch goals caused stress and fear for many employees and thus lowered their performance, Furniture Company employees felt "excited" to strive for the stretch goals, as they could see how they would benefit from achieving those goals (e.g., improvements in KPIs, salary and bonus rises). While the incentive compensation scheme for achieving the stretch goals at Furniture Company was mainly applied to mid-level managers and some low-level managers such as supervisors and team leaders, the absence and ambiguity of an incentive compensation scheme for group leaders and workers also explained why they lacked the motivation to strive for its stretch goals. Clor-Proell *et al*. (2015) indicate that the availability of promotion opportunities significantly curbs fraudulent behavior by employees when they face extremely difficult goals. In turn, our research complements their findings by showing that adding incentive compensation may not only reduce the disruptive effects of stretch goals but also boost its facilitative effects on organizational performance.

Third, our research contributes to the literature on management accounting in emerging countries. For instance, the review studies by Hopper *et al*. (2009) and Ndemewah and Hiebl (2021) argue that the adoption of Western management accounting systems in emerging countries may reduce the protection and interest of key stakeholders compared with those of owners. In particular, large parts of this strand of the literature suggest that the adoption of Western management accounting techniques in emerging countries is generally challenging and often faces resistance due to the prevailing values of emerging countries and influence of religion and colonialism being at odds with the underlying Western paradigms of many management accounting techniques (Hopper *et al*., 2009; Ndemewah and Hiebl, 2021). By contrast, our evidence on MTUni shows that the economic interests of stakeholders affected by applying advanced management accounting practices were a major source of controversy and resistance rather than a misalignment of values. Therefore, our findings based on a comparative case study of MTUni and Furniture Company complement the prior literature on management accounting in emerging countries (e.g., Hopper *et al*., 2009; Ndemewah and Hiebl, 2021) by pointing out that Western management accounting techniques may be able to be successfully applied to emerging countries if stakeholder interest is secured via incentive compensation.

Our research is subject to some limitations, which provide opportunities for future research. First, because the senior managers of both MTUni and Furniture Company were afraid of publicly exposing sensitive information, we had few opportunities to interview subordinates, including lecturers at MTUni and team leaders, group leaders, and workers at Furniture Company. Although we cross-checked informants' responses, especially those from senior and mid-level managers, to reduce potential bias and verify the given information, not interviewing subordinates may have prevented the adequate inclusion of their views in our case studies. Second, at Furniture Company, although we tried to ascertain the influence of its kaizen measures on the achievement of its stretch goals through interviews with senior and mid-level managers, our interviewees did not provide detailed data, but only said it "helped" them and described how. Thus, although our abductively derived findings shed some light on these dynamics, they leave open space for furthering our knowledge on the micro dynamics of these developments. Third, our two case studies may not reflect all the potential influences of exogenous factors (e.g., clients, policymakers) on the likelihood of adopting stretch goals or the role of incentive compensation on the (facilitative versus disruptive) effects of stretch goals. Therefore, studying the influence of other exogenous factors (e.g., changes in information technology) and endogenous factors (e.g., changes in ownership) on the likelihood of using stretch goals in an organization would be fruitful. Similarly, in addition to incentive compensation, research on the influence of other management accounting techniques (e.g., budgeting) on the effect of stretch goals on organizational performance is encouraged.

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Appendix of Section C

Table A1. Overview of the interviews

List of interviews at MTUni

No.	Date of interview	Interviewee	Duration of interview (min.)
1	21/11/2017	Vice-President No. 1 of MTUni	71
2	24/11/2017	Vice-President No. 1 of MTUni	58
3	27/12/2017	Director of Botany College	78
4	27/12/2017	Vice-President No. 2 of MTUni	65
5	28/12/2017	Former Director of Construction College	120
6	04/4/2018	Director of Microbiology College	68
7	10/5/2018	Director of Botany College	65
8	05/7/2018	Head of the General and Administrative Department of Botany College	40
9	05/7/2018	Accountant of Botany College	30
10	06/7/2018	Deputy Head of the Finance and Accounting Department of MTUni	54
11	23/7/2018	Director of Estate College	88
12	25/7/2018	Head of the Central Office of Construction College	75
13	05/8/2018	Lecturer at Construction College	80
14	05/5/2019	Vice-President No. 1 of MTUni	68
15	11/6/2019	Deputy Director of Microbiology College	65
16	12/6/2019	Director of Construction College	69
17	03/8/2019	Vice-President No. 1 of MTUni	84
18	04/8/2019	Head of the Finance and Accounting Department of MTUni	40
19	26/8/2019	Deputy Director of Botany College	52
20	26/8/2019	Director of Estate College	41
21	25/7/2020	Vice-President No. 1 of MTUni	80
22	30/7/2020	Lecturer No. 2 at Construction College	46
23	04/8/2020	Lecturer at Botany College	40

List of interviews at Furniture Company

No.	Date of interview	Interviewee	Duration of interview (min.)
24	26/04/2018	Deputy Director of Furniture Company	64
25	11/05/2018	Production Manager of Factory A	55
26	06/06/2018	Production Manager of Factory A	58
27	10/07/2018	Manager of the Quality Control Department	59
28	12/07/2018	Manager of the IWAY Board	20
29	12/07/2018	Former Secretary of the Continuous Improvement Board	45
30	20/07/2018	Supervisor of Factory A	58
31	31/07/2018	Supervisor of Factory B	65
32	05/08/2018	Production Manager of Factory B	63
33	13/05/2019	Production Manager of Factory A	45
34	23/05/2019	Secretary of the Lean Sig Sigma Committee	52
35	23/05/2019	Production Manager of Factory B	45
36	13/06/2019	Production Manager of Factory A	45
37	26/06/2019	Supervisor of Factory B	60
38	30/07/2019	Manager of the IWAY Board	55
39	20/8/2019	Secretary of the Continuous Improvement Board	82
40	12/09/2019	Manager of the Supply Department	42
41	12/09/2019	Production Manager of Factory C	50
42	12/09/2019	Manager of the Electromechanical Department of Factory A	30
43	27/09/2019	Deputy Director of Furniture Company	30
44	9/10/2019	Staff of the Quality Control Department	32

D. Integrating a new management accounting into a routine cluster: the role of interaction between multiple management accounting routines

1. Introduction

Organizational routines have long been considered as one of the most important concepts in management and organization studies to explain organizational behavior (e.g., Nelson and Winter, 1982; Feldman, 2000; Parmigiani and Howard-Grenville, 2011). As a consequence, there is a body of management accounting studies that have adopted organizational routines as a lens to better understand the emergence and change of management accounting practices over time (e.g., Bertz and Quinn, 2022; Burns and Scapens, 2000; Lukka, 2007; Quinn and Hiebl, 2018; ter Bogt and Scapens, 2019). While most research has focused on single organizational routines (e.g. Feldman and Pentland, 2003; Howard-Grenville, 2005; Feldman and Pentland, 2008; Dittrich *et al*., 2016) and single management accounting routines (e.g. Perren and Grant, 2000; Quinn, 2011; Oliveira and Quinn, 2015), little research has focused on the interaction between multiple routines, and – to the best of our knowledge – none has explicitly focused on the interaction between multiple management accounting routines. This seems unusual as organizations usually feature, not single, but multiple routines (Simon, 1962; Thompson, 1967; Nelson and Winter, 1982; Winter, 2003; Kremser and Schreyögg, 2016). Likewise, when new management accounting routines are being formed or introduced, they are likely to be embedded within an existing set of management accounting routines and practices (Demartini and Otley, 2020).

General-interest management and organization studies on multiple routines or interrelated routines has increased in recent years (e.g., Birnholtz *et al.,* 2007; Turner and Rindova, 2012; Sele and Grand, 2016; Prange *et al*., 2017; Rosa *et al*., 2020). In this paper, a study by Kremser and Schreyögg (2016) who introduced the concept of routine clusters is drawn upon. They defined a routine cluster as a collection of interrelated and complementary routines to complete a common task. Further, they proposed the logic of complementarities in which the integration of new routines into a cluster depends heavily on potentially resulting misfit costs for the cluster. Complementarities between management accounting and control practices have recently received much attention in quantitative studies on their working as a package or system (e.g., Braumann *et al.*, 2020; Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Merchant and Otley, 2020; Posch, 2020). Given their methodological setup, these studies could not explore details of the interaction between management accounting routines in their organizational setting. In addition, most of the evidence on complementarities between management accounting practices stems from developed countries, which have been shown to feature different dynamics and aspirations when it comes to management accounting and control practices as compared to emerging countries (e.g., Hopper *et al.*, 2009; Lassou *et al.*, 2021; Nguyen and Hiebl, 2021).

Against this backdrop, in this paper, it is hoped to add to the existing management accounting literature by examining the interaction between management accounting routines when adopting a new management accounting routine into a routine cluster. The following research question is addressed: how does the interaction between multiple management accounting routines affect the integration of a new management accounting routine into a routine cluster? To address this question, an in-depth case study of N&TCo[4] is used, a private manufacturing company in the emerging economy of Vietnam. A specific focus is on the production routines cluster at N&TCo which are considered the most important since it mainly operates as a supplier for a large European retail group and is thus heavily reliant on its production efficiency. The case covers the introduction of a new management accounting routine that was geared towards

[4] The name of the company is anonymized.

integrating continuous improvement thinking into the production routines cluster. The findings suggest that the interaction between this new continuous improvement routine with another important management accounting routine - a performance evaluation and rewards routine - influenced the integration of the continuous improvement routine into the production routines cluster.

Based on these findings, the study offers two main contributions. First, although the findings support the logic of complementarities proposed by Kremser and Schreyögg (2016) in which low misfit costs were a key reason that a continuous improvement routine was well integrated into the production cluster at N&TCo, the evidence shows other factors can affect the integration of new routines into a routine cluster such as the involved actors' "passion for work" and "level of expertise". Second, the study contributes to existing literature on management accounting and control practices as a package or system (e.g., Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Merchant and Otley, 2020). By drawing on the logic of routine complementarities (Kremser and Schreyögg, 2016), an in-depth account of the workings that shape the complementarity between management accounting routines is given, which in turn makes the smooth integration of a new management accounting into a routine cluster more likely. In particular, such integration was stronger where the new routine and the existing routine were *intertwined* and not just side-by-side. This implies that future research on the complementarities between management accounting and control practices may need to distinguish between several forms of complementarity more closely.

The remainder of this paper is structured as follows. Section 2 provides a brief review of the existing literature on organizational and management accounting routines. A review of literature on interrelated management accounting practices as well as the propositions by Kremser and Schreyögg (2016) on the logic of routine complementarities is also given to tease out under what conditions new routines may be integrated well into a routine cluster. Section 3 details the research methods, including the data collection and data analysis. In Section 4, the findings on the effect of the interaction between two management accounting routines on the integration of a new management accounting routine into a routine cluster are presented. The discussion of these findings, the conclusions, and the limitations of this study are then presented in Section 5.

2. Organizational and management accounting routines

2.1. General routines research

Routines are an integral part of organizational life for the accomplishment of work (Cyert and March, 1963; Nelson and Winter, 1982; Levitt and March, 1988; Gersick and Hackman, 1990). An organizational routine is generally defined as "a repetitive, recognizable pattern of interdependent actions, involving multiple actors" (Feldman and Pentland, 2003, p. 96). Based on this general definition, Pentland (2011, pp. 280-281) suggested that a given phenomenon could be considered as an organizational routine when it meets four essential conditions: 1) it is repetitive, 2) it produces a recognizable pattern of actions, 3) actions are interdependent, and 4) multiple actors are involved.

Initially, routines were primarily considered as encapsulating inertia (Hannan and Freeman, 1984), mindlessness (Ashforth and Fried, 1988), demotivation (Ilgen and Hollenbeck, 1991), competency traps (March, 1991), or stability and repetition (e.g. Gersick and Hackman, 1990; Cohen *et al*., 1996). However, more recent studies have shown that routines also represent a source of organizational change and flexibility as human actors are involved in carrying out routines and have capabilities to adjust them to their interests (Becker and Lazaric, 2003; Becker *et al*., 2005; Feldman, 2000; Feldman and Pentland, 2003; Rerup and Feldman, 2011). In this vein, Feldman and Pentland (2003) proposed a new understanding of organizational routines to explain how organizational routines are endogenous drivers of organizational change. They conceptualized organizational routines as the interaction between ostensive and performative aspects, challenging studies that are mostly rooted in new institutional sociology, heavily focus on structure, downplay the role of individual agency and view routine change as largely triggered by exogenous factors (e.g., Emirbayer and Mische, 1998). Further, because routines can produce a variety of performances from steady to changing depending on different conditions (Feldman, 2000; Feldman and Pentland, 2003; Pentland and Reuter, 1994; Pentland and Feldman, 2005), understanding a routine's stability and variability is the primary purpose of the dynamic perspective of routines (Feldman and Pentland, 2008). As a result, these new insights on routines and their inherent dynamics, have inspired a series of empirical studies on analyzing organizational routines as both sources of stability and change (e.g., Howard-Grenville, 2005; Feldman and Pentland, 2008; Pentland *et al*., 2012; Turner and Rindova, 2012; Loch *et al*., 2013; Sharma *et al*., 2014; Dittrich *et al*., 2016).

Building on the advances by Feldman, Pentland and others, management accounting scholars have shown an increased interest in management accounting routines to better understand how and why management accounting practices emerge, are shaped, change or remain stable over time (e.g., Bertz and Quinn, 2022; Lukka, 2007; Oliveira and Quinn, 2015; Perren and Grant, 2000; Quinn, 2011, 2014; Quinn and Hiebl, 2018; ter Bogt and Scapens, 2019; van der Steen, 2009, 2011). The starting point for this research tradition was the framework by Burns and Scapens (2000) (but see also Scapens, 1994) which largely drew on old institutional economics. They noted the notions of organizational rules and routines as a lens to better understand management accounting change. Later, Quinn (2011) bolstered Burns and Scapens (2000) by drawing on insights from Feldman and Pentland (2003). Similarly, van der Steen (2011) explored the dynamics involved in the emergence and change of management accounting routines to shed light on which complex dynamics in routines promote the stability and change in management accounting practices. By drawing on extant literature to find potential factors that may influence the foundation of management accounting routines, Quinn and Hiebl (2018) proposed a framework on the foundation of management accounting routines in which the foundations could be influenced by a combination and/or interaction of factors at (i) the organizational level, (ii) the organizational field level and (iii) the economic and political level. Most recently, ter Bogt and Scapens (2019) provided an extended version of the Burns and Scapens (2000) framework and, amongst other elements, added the notion of situated rationality to explain which rationalities actors may apply in a specific situation, which in turn can influence the stability or change of management accounting routines (see also, Bertz and Quinn, 2022).

Thus, most extant research on management accounting routines has focused on the emergence, change and dynamics of individual management accounting routines and a deeper understanding of the interaction between multiple management accounting routines has not yet evolved. Other research on management accounting practices, however, shows that new management accounting practices are seldom introduced in a greenfield approach (Demartini and Otley, 2020), and it is more likely that they will be introduced in a context where they will interact with existing management accounting practices. In Section 3, insights from management and organization studies on the interactions between routines as well as quantitative research insights into complementarities between management accounting and control practices are thus reviewed.

In addition, existing research has mostly drawn on evidence from developed countries. The dynamics around the adoption of management accounting practices has been found to differ strongly between developed and emerging countries. That is, reviews of management accounting research on emerging countries mostly suggests that such practices are often implemented due to external pressure – for instance, by donors, shareholders or customers from more developed countries (e.g., Hopper et al., 2009; Ndemewah and Hiebl, 2021; van Helden and Uddin, 2016; van Helden et al., 2021). Consequently, actors in emerging-country organizations may adopt such management accounting practices without conviction and only ceremonially, often leading to a loose or non-existing coupling between information these actors provide through management accounting practices and their day-to-day activities (e.g., Aliabadi *et al*., 2021; Harahap, 2021; How and Alawattage, 2012). If such management accounting practices are not embraced in actors' day-to-day activities, then they may remain isolated practices and are thus less likely to feature interaction with other organizational routines such as management accounting routines. However, given the lack of empirical evidence so far, it remains to be seen how such dynamics around management accounting routines play out in an emerging-country setting.

2.2. Complementarity: interdependence between organizational routines

Recently, several published articles studying interdependent routines within the general management and organization studies literature are apparent. These studies have proposed new concepts including routine boundaries and intersections, bundles, ecologies, and clusters (Rosa *et al*., 2020). According to Rosa *et al*. (2020), studies on routine boundaries and intersections (e.g., Dönmez *et al*., 2016; Spee *et al*., 2016; Kremser *et al*., 2019) focus on the ad-hoc coordination of multiple routines through specific performances to interpret how the specific performance of a focal routine may be affected or segregated from other routines. For instance, Spee *et al*. (2016) develop a dynamic framework that theorizes how highly skilled actors accomplish coordination between multiple intersecting routines and their influence on the balancing of coexisting ostensive patterns. Meanwhile, instead of focusing on the coordination between multiple routines in organizational practices, research on routine bundles (e.g., Barreto, 2010; Davies *et al.*, 2017; Prange *et al.*, 2017; Schilke *et al.*, 2018) typically employs a capabilities-based perspective to examine how a particular type of organizational-level outcome is caused by the aggregate outcome of multiple routines (Rosa *et al*., 2020). For example, by analyzing the case study of the global logistics provider DHL from 1997 to 2006, Prange *et al*. (2017) investigated the transformation and transition of routine bundles composing two distant dynamic capabilities including acquisition-based and innovation-based capabilities. On the other hand, the literature focusing on routine ecologies seeks to explore the groupings of routines that are connected through informal and emergent couplings (Rosa *et al*., 2020). For example, the study by Birnholtz *et al*. (2007) analyzed organizational regeneration to shed light on how a groups of actors develops and maintains the coherent ecology of action patterns while the studies by Pentland (2004) and Sele and Grand (2016) contributed to the extant literature by emphasizing that not only human actors but non-human actors also play an important role in routine ecologies.

In contrast to research on ecologies – which focuses on unplanned coordination through emergent coupling – researchers and scholars interested in routine clusters examined the planned aspects in the coordinating of interrelated routines through the programming or designing of interfaces (Rosa *et al*., 2020). Among such studies, Kremser and Schreyögg (2016) laid the foundation for the study of routine clusters. They defined a routine cluster as “multiple, complementary routines, each contributing a partial result to the accomplishment of a common task” (p. 698). In this paper, the ideas by Kremser and Schreyögg (2016) are employed to better understand the effect of the interaction between two management accounting routines on the application of a new management accounting routine into a production routine cluster. Specifically, Kremser and Schreyögg (2016) argue that programming interfaces allow multiple routines to connect and coordinate with each other via means of performance objectives; making the outcome of each routine predictable for actors that perform the connected routines. Thus, although there is task interdependence between these routines, programming interfaces allows actors to perform a focal routine without having to rely exclusively on ad-hoc coordination of actions taken in other routines. Furthermore, Kremser and Schreyögg (2016) indicate that the division of labour and designing of interfaces between routines can bring the logic of complementarities that drive the dynamics of routine clusters in the long run. The logic of complementarities is used to explain if and how new routines could integrate into a routine cluster to be fully operational. Particularly, the adaptability and ability to integrate new routines into a routine cluster depends very much on the resulting misfit costs for the cluster as a whole in which the misfit costs are "the costs (including the risk of ripple effects) of developing new routines and integrating them into the interfaces established by an integrating program architecture" (Kremser and Schreyögg, 2016, p. 715). The higher the misfit costs are, the lower the adaptability of new routines to a routine cluster is. Conversely, new routines that have low misfit costs will be preferred to apply. In addition, the logic of complementarities of Kremser and Schreyögg (2016) also explains how the cluster dynamics form an endogenous barrier to organizational adaptiveness since the evolution of the cluster dynamics largely depends on previously developed patterns of differentiation and integration.

2.3. Related research on management accounting and control packages

The complementary of management accounting practices is a key pillar of a stream of quantitative research on management control as a package versus a system (e.g., Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Merchant and Otley, 2020). Within this literature, the entirety of all management accounting and control practices is seen as a package, irrespective of whether these practices feature interdependencies or not (Malmi and Brown, 2008; van der Kolk, 2019). If such interdependencies between management accounting and control practices are recognized and accounted for in these practices and associated design choices, then such interdependent practices are usually regarded as a system (Grabner and Moers, 2013). In addition, Grabner and Moers (2013) theorized that given such interdependency, the value of one management accounting practice is complemented using other management accounting practices and vice versa. Therefore, the benefit of that management accounting practice is increased by using other interdependent practices and vice versa. In contrast, if the benefit of one management accounting practice is reduced by using other management accounting practices, it means that these practices can be considered substitutes (Grabner and Moers, 2013). More recently, Demartini and Otley (2020) suggested that in many organizations, fully interdependent or fully non-interdependent relationships between management accounting and control practices are not observable. Instead, they theorized and found that a loose coupling between such practices yields the best outcomes for both organizational effectiveness and process innovation. As argued by Demartini and Otley (2020), such a loose coupling is able to foster organizational effectiveness and at the same time does not stifle organizational innovation.

All these studies on the interdependencies between management accounting and control practices are based on quantitative empirics. They have not thus studied the interaction between management accounting practices in-situ, that is, by the means of an in-depth case study to uncover their complexity. Thus, field-based studies are needed to gain a deep understanding of the problems that organizations are facing and how they attempt to overcome them in designing interrelated management accounting practices (Merchant and Otley, 2020). Furthermore, the above quantitative studies often focus on the interaction of management accounting practices at the macro level while ignoring the stability and change dynamics of management accounting practices that are often highlighted in research on management accounting routines. This leaves room for this study to analyze the interaction between management accounting routines as well as the effect of such interaction on the application of a new management accounting routine into a routine cluster.

3. Research methods

To address the main research question, a longitudinal case study approach was used. The focus case was N&TCo, a Vietnamese private manufacturing company. N&TCo is one of the largest furniture, kitchen appliance, and home accessories manufacturers in Vietnam. Established in the 2000s, N&TCo has witnessed strong recent performance and continuous growth, with its annual turnover reaching approximated \$100 million. N&TCo provides an informative and suitable setting the following reasons. Firstly, N&TCo's manufacturing operations require a series of repetitive operations and actions performed by organizational actors to achieve the highest productivity and uniform quality (i.e., routines). Furthermore, as N&TCo is also an exporter to international markets, changing or adopting new routines is inevitable given fierce competition and the volatility of the international market. Also, N&TCo has designed and programmed routine clusters to ensure its tasks are practiced in a smooth and efficient manner. Thus, the highly standardized operations enable us to directly observe the application of a new routine into a routine cluster. Finally, N&TCo is continuously implementing and updating new management accounting practices to ensure their production activities are carefully monitored and goals are being met. These features of N&TCo enable us to observe routine changes, the application of new management accounting routines and the interactions between management accounting routines.

Data for the study were primarily obtained from extensive interviews and discussions with key actors at N&TCo. In this vein, a total of 21 semi-structured interviews were conducted during 2018 and 2019 with 13 staff members at the Head Office and the company's factories. Some interviewees were visited more than once to provide opportunities to ask follow-up questions and clarify information obtained from the initial interviews. The interviews ranged from 20 to 82 minutes, on average took 50 minutes and totaled approximately 18 hours (see Table AI for a list of interviews). A total of 11 out of 21 interviews were voice recorded. For the remaining interviews, extensive field notes were taken, as some respondents felt insecure with recording – a procedure that seems quite common when interviewing lower-level actors in emerging countries who may fear repression (e.g., Nguyen and Hiebl, 2021). These field notes were taken during and after the interviews and transcribed within 24 hours. In addition to the formal interviews, the data was enriched by collecting publicly available information including media and government reports on N&TCo's production activities.

From a theory perspective, as noted earlier the idea of routine clusters (Kremser and Schreyögg, 2016) is used. In line with this idea, a new management accounting routine can be viewed as complementary to existing management accounting routines, if the misfit costs for the entire routine cluster associated with the introduction of the management accounting routine are lower than the perceived benefits for the entire cluster. Guided by this notion of routine clusters, all collected data was grouped into three main topics. The first topic, which will be discussed in Section 4.1, deals with the background of N&TCo and its production routines cluster. Here, Kremser and Schreyögg (2016) is used to analyze the production activities of the factories at N&TCo as a production routines cluster. The second topic, detailed in Section 4.2, concerns the introduction of a new management accounting routine into the production routines cluster. Why N&TCo decided to apply a continuous improvement routine as a new management accounting routine will be discussed, and how the company tried to integrate a new continuous improvement routine into the production routines cluster is detailed. Finally, the third topic, presented in Section 4.3, explores the interaction between two management accounting routines – that is, an existing performance evaluation and rewards routine and the new continuous improvement routine – and its impact on the application of the new continuous improvement routine into the production routines cluster. How the interaction between these two management accounting routines affected the application of the continuous improvement routine into the production routines cluster for mid- and lower-level managers and workers is specifically examined.

4. Findings

4.1. Background to N&TCo's organizational routines

By 2019, N&TCo's production scale had expanded to seven factories across Vietnam. With a wide range of products, N&TCo had been selected as one of the main suppliers to LeHolding[5] one of the largest retail groups in Europe. N&TCo's organizational chart (see Figure 1), internal corporate governance rules and its code of conduct were available to the researchers. These regulations covered all related activities of the company, defining the function and duties of the Board of Directors and all departments. The company is headed by a Board of Directors in which the Chief Executive Officer (CEO) manages the entire operation. Deputy directors oversee separate areas such as manufacturing, exporting, or business activities. The firm features various independent functional departments which coordinate with each other to achieve common goals such as the accounting department, quality control department or production department. Their integration into the larger areas was explained to us as follows:

> The company's hierarchy has many functional departments. The main management of the company belongs to the Board of Directors including the Chairman, CEO, and deputy directors while the main management of functional departments is the accounting department, quality control department, or manufacturing department. (Interview, Production Manager, Factory A, 2018)

[5] We have changed the name of the company to ensure its anonymity.

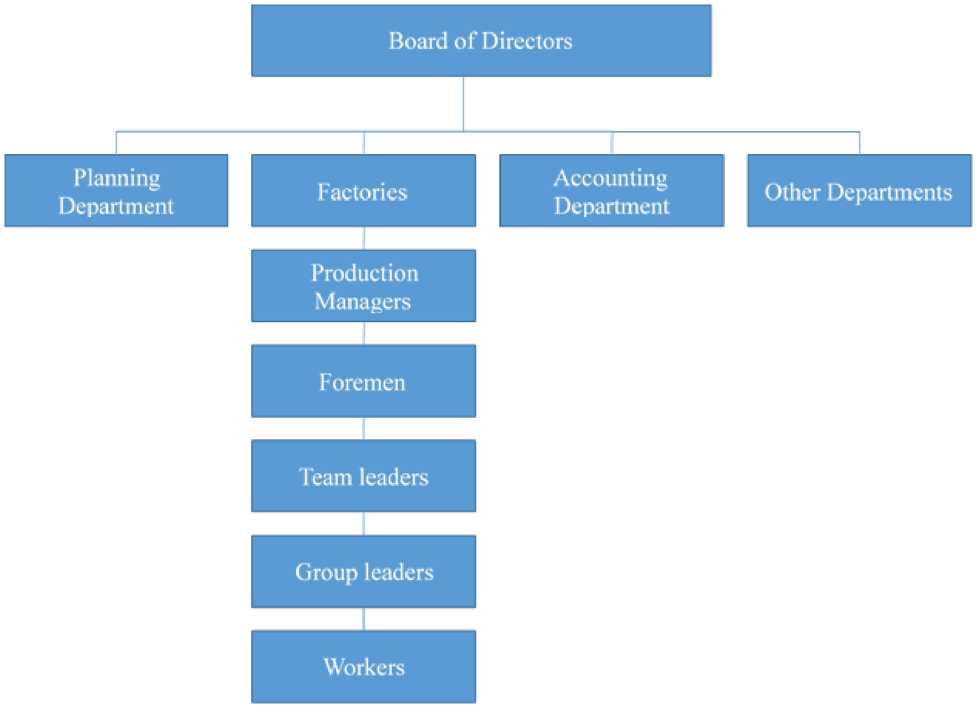

Figure D 1. N&T Co's organizational chart

As an organization typically has multiple routines and routine clusters, Kremser and Schreyögg (2016) suggest that to understand these clusters, it is necessary to group specialized routines into separate clusters such as production, marketing, research, or logistics to reduce internal complexity. Routines can be clustered based on the design decisions of organizational agents, objects (e.g., products or customers) or activities (e.g., production, accounting, marketing) if the goal of routine clusters is to exploit complementarities between interrelated routines (Kremser and Schreyögg, 2016). For this study, routines at N&TCo can be grouped based on activities, including a production routines cluster (see Figure 1).

The primary focus of this study is thus the cluster of production routines at N&TCo 's factories. This choice was to an extent driven by the fact that the best empirical access was to the production function. As indicated above, N&TCo is headed by a Board of Directors who are responsible not only for managing and monitoring the operation of the factories, but also for developing and making business decisions and policies, strategic goals, or business plans. The production managers are responsible for the production activities of their factories and report to the Board of Directors. The main tasks of these mid-level managers is to implement the plans, goals, and policies set out by the senior managers, communicate and translate information and policies from top management to lower management, assign and manage the operations of production groups and lower-level managers, or report performance to the senior managers. Each production manager supervises several lower-level managers. The production processes in each factory has four main stages, namely material preparation, component manufacturing, assembling, and finishing. Each stage is managed by a foreman[6] and divided into several production teams, managed by team leaders. Each production team was divided into production groups managed by group leaders. Usually, the key tasks of group and team leaders is to assign and manage production activities of subordinate employees and workers, assuring quality and production output, solving production problems, and reporting performance to senior managers. The production groups were made up of dozens to hundreds of workers who were directly involved in the production.

In line with the four requirements for routines as stated by Pentland (2011), evidence was clear that the production and production management activities involved actors from mid-level managers to workers. These activities can be regarded as organizational routines as they were (1) repetitive, (2) had a recognizable pattern of (3) interdependent actions, and (4) were carried out by multiple actors. To make optimal use of the skills of managers and workers, N&TCo applies mass production methods in which each factory featured multiple workstations and production lines to enable specialized production. This enabled the company to produce thousands of similar products each month at a low cost. In other words, because the division of labour was clearly defined, as were the functions and duties of each manager and worker, the operations of dozens of the mid- and lower-level managers and many the workers were

[6] The term foreman is used throughout for consistency and no implication is implied for its use. Staff in these positions were male and female.

repetitive. In addition, the workers' production activities had a recognizable pattern of action through three main steps of production – receiving input, performing assigned tasks, and creating expected output. A similar picture was found in the mid- and lower-level managers as their duties were composed of a pattern of other smaller interdependent activities ranging from taking direction from top management, assigning and managing the operation of subordinates, and reporting performance to higher-level managers.

To promote the performance and productivity of subordinate and workers, the Board of Directors also had in place the performance evaluation and reward scheme. For example, performance evaluation of the workers at the factories included attendance and productivity indicators. The higher the workers' performance was assessed, the great their salaries and bonuses. Here, we treat the performance evaluation and reward mechanism as a management accounting routine: performance evaluations are viewed as a widespread and typical management accounting and control practice (e.g., Burns *et al.*, 2013; Malmi and Brown, 2008). In the case of N&TCo, this practice also fulfills the basic four components of an organizational routine as suggested by Pentland (2011). For instance, the performance evaluation and reward routine were not only performed repetitively every month and quarter, but was also conducted by multiple actors ranging from top managers to lower-level managers. The routine also consisted of a recognizable pattern of independent actions from evaluating and scoring the performance of subordinates to reward.

The production routine cluster and management accounting routines of the workers and mid- and lower-level managers at the factories of N&TCo witnessed recent changes when the Board of Directors encouraged a reduction in production costs, sought to increase productivity and to increase product quality. This created the opportunity to explore how a new management accounting routine could be integrated into the production routines cluster and how the interaction between two management accounting routines affected the adoption of one new routine into the production routines cluster.

4.2. Embedding a new continuous improvement management accounting routine into the production routine cluster

Like countries with a Communist past, Vietnam regularly witnesses social movements induced by central government. These are more akin to a call for action and are not legally binding. At the time of this research, there was an ongoing social movement among the Vietnamese business landscape that was termed a "continuous improvement movement" by interviewees. This movement was like continuous improvement programs applied in many Western organizations in the past three decades. In Western organizations, continuous improvement programs have usually been adopted with the aim of creating "a culture of sustained improvement targeting the elimination of waste in all systems and processes of an organization" (Bhuiyan and Baghel, 2005, p.761). Bhuyian and Baghel further propose that such continuous improvement "involves everyone working together to make improvements without necessarily making huge capital investments" (2005, p.761). Interviewees at N&TCo indicated that the ongoing social movement in Vietnam held similar goals, but was not restricted to individual organizations and it was perceived as the government's willingness to foster the continuous improvement ideas in the Vietnamese economy more generally.

Although N&TCo's senior management encouraged its mid- and lower-level managers and workers to actively participate in the continuous improvement movement since its inception, the movement had been unsuccessful as of 2018 as it had been applied in a spontaneous and infrequent manner only. For instance, the Production Manager of Factory A explained:

> In the past, it was called the launching of the [continuous improvement] movement. It was not a norm or regulation, so it was not mandatory to perform […]. It was not ineffective but rather not regular. It still had improvement, but it was spontaneous. (Production Manager, Factory A, 2018)

N&TCo's senior management started enacting decisions and formal instructions on the application of a continuous improvement routine into its production routine cluster in early 2018. The main reason it officially adopted this approach came from pressure by LeHolding – a single customer representing 70-90% of revenue. Specifically, N&TCo had been under pressure from LeHolding to reduce its product price by 2% per year. At the same time, LeHolding introduced stricter production standards in recent years: e.g., having proof of origin, meeting import/export document requirements, and obtaining the Forest Stewardship Council (FSC) certification. This led N&TCo to apply a continuous improvement routine into its production cluster to compensate for losses due to meeting LeHolding's new requirements. The Deputy Director of N&TCo explained:

> Production for export is large; the orders are stable, but the profitability is low; the company is annually under pressure to reduce its selling price […]. FSC 100% is also a completely new requirement to us. And we do not have any policies to reduce these costs, especially when developing countries have to comply with European standards […] Therefore, to reduce costs, it is necessary to intensify the improvement activities. (Deputy Director, 2018)

To adopt a continuous improvement routine into the production cluster, the Board of Directors set continuous improvement goals and mandated that the respective mid- and lower-level managers calculate costs and benefits of their improvement initiatives; or prove otherwise that their initiatives brought benefits to the company. In addition, senior management developed an evaluation and measurement system to assess improvement initiatives, and adapted reward mechanisms accordingly. Particularly, senior managers set the goal that each person in each factory must contribute at least one improvement initiative per month. Setting such goals was to facilitate the placement of continuous improvement into a KPI-based evaluation as one of our interviewees explained:

> When the improvements started to be included in the report; and the model was standardized; we started to aggregate and put it into the KPIs evaluation […]. The goal is that every month, every person has to make at least one suggestion for improvement. Thus, if there are 200 people, there will be 200 improvement initiatives in a month. You can compare the number of these improvement initiatives to the target number of improvement initiatives set by the company. (Manager of Quality Control Department, 2018)

Furthermore, senior management established a so-called Continuous Improvement Committee (CIC) which was headed by the chairman. The other members of this committee included the remaining members of the Board of Directors, the factory production managers, workshop foremen, and managers of the electromechanical departments. In addition to the CIC, each factory had its own continuous improvement subcommittee. The production manager of the factory was also the head of the subcommittee, with other members being foremen, team leaders, group leaders who directly managed the production in their workshops, and members of the electromechanical department - responsible for managing and repairing the equipment, machine and safety devices that were used in the production process. The tasks of the mid- and lower-level managers at the continuous improvement subcommittee were not only to launch the continuous improvement movement in their areas and teams, but also to aggregate and report improvement initiatives on a quarterly basis to the CIC.

Notably, the Board of Directors required that management accounting techniques be applied in reporting continuous improvement results. For every improvement initiative, a quantified analysis of costs and benefits was required. The continuous improvement report included categories such as improvements in productivity, quality, safety, and environment. Mid-level managers and some lower-level managers (such as foremen) had to calculate and estimate how much their improvements benefited the company. Thus, the initiators of the improvement initiative had to convert benefits and costs of their improvements into money and show that the benefits of the improvements were greater than the costs incurred from the improvement initiatives. That is, the objective was for every improvement imitative contributed positively to the firm's earnings before interest and taxes (EBIT). For improvements that could not be converted into money – such as improvements in quality or safety – managers could add notes in the results box in their reports to show how the innovation improved production as well as benefited the company.

The continuous improvement activities of N&TCo can be considered a management accounting routine for three reasons. First, actors at factories had to calculate the benefits (mostly cost savings) and additional costs of improvement initiatives, preferably in terms of how much corporate earnings would benefit. That is, the proposers of such ideas had to apply a cost and benefit analysis of their suggestions to inform corporate management. Second, this information was in turn used by managers to monitor performance on the outcome of the improvements and thus make decisions. These two items together mirror a typical test book definition of management accounting (e.g., Burns *et al.*, 2013; Horngren *et al.*, 2014) i.e., collecting information useful for managers in decision-making. Third, the continuous improvement activities met the four essential components of an organizational routine as defined by Pentland (2011). In particular, the implementation of the continuous improvement approach was not only repetitive but also done by multiple actors as dozens of the mid- and lower-level managers and hundreds of workers at N&TCo's had to come up with improvement initiatives every month and contribute to continuous improvement reports on a quarterly basis. It had a recognizable pattern of interdependent actions including giving improvement initiatives, calculating the benefits and costs of the improvement initiatives, executing the reports for the continuous improvement subcommittees, awaiting approval from the continuous improvement subcommittees, and reporting to the CIC. Next, the interaction between two management accounting routines, namely the performance evaluation/reward routine and the continuous improvement routine, as well as its impact on the application of the continuous improvement routine into the cluster for the production routines is analyzed.

4.3. The interaction between management accounting routines

In early 2018, N&TCo used their existing performance evaluation and reward routine to enhance the new continuous improvement routine into the production routine cluster by amending the KPIs to evaluate the performance of the mid- and lower-level managers. In particular, KPIs for evaluating the mid- and lower-level managers' performance consisted of seven indicators on productivity and product quality, and now included continuous improvement initiatives also. These KPIs were ranked in order of importance as perceived by the Board of Directors. The more important the indicator was, the higher its coefficient was in calculating KPIs – which in turn determined manager's salaries. However, the continuous improvement ideas were classified as the least important KPI dimension, as explained by the Production Manager of Factory B:

> The importance of each item in the KPIs will be divided into level one, level two, level three […]. The most important item will be at level one. Meanwhile, the level of importance of the continuous improvement item is at level seven. It means that level seven is just encouragement. (Production Manager, Factory B, 2018)

As the continuous improvement goal was that each manager and worker must offer at least one improvement initiative each month, the score of continuous improvement items in the KPIs of the mid- and lower-level managers was calculated by the number of improvement initiatives each month in the factory/workshop they were in charge of. According to the Production Manager of Factory A:

> If everyone has initiatives, it gets four points. If 50% of the workforce has improvement initiatives, it gets two points. If no worker gives an improvement initiative, it gets zero points. (Production Manager, Factory A, 2019)

While the production managers were accountable for the improvement initiatives developed at their factories, the KPIs were not included in recurring evaluations of the individual workers' performance. That is, the performance evaluation of the workers remained unchanged, and did not include any continuous improvement indicators. However, the author of a continuous improvement initiative could get extra awards and bonuses. That is, to encourage all actors at factories to integrate the continuous improvement routine into their production routine cluster, N&TCo reviewed, graded, and awarded high-quality innovation initiatives on a quarterly basis. The CIC reviewed and scored the most innovative ideas based on two criteria. The first criterion was the scope of applicability of an improvement initiative to other factories. If an initiative was more widely applicable, it scored higher. The second criterion was the economic effectiveness of the improvement initiatives as one of our interviewees explained:

> The next criterion is its effectiveness. The initiative which makes 100 million VND[7] will be more appreciated than the one that only makes 5 or 10 million VND. (Manager of Quality Control Department, 2018)

Members of the CIC participated in scoring the most innovative ideas. The Board of Directors' votes accounted for 50% of total points while the scores of the other members accounted for the remaining 50%. After that, the CIC proceeded to reward the "best" initiatives based on the scores of the improvement initiatives. The higher the scores of the initiatives were, the more monetary reward the initiatives' initiators could get. The Production Manager of Factory A added:

[7] One hundred million Vietnamese Dong (VND) equate to about €4,000 as of March 2022.

> After that, we evaluate and give scores. And then we make the reward corresponding to the scores. The Committee will consider how much money will a point of improvement be rewarded? Thus, if an initiative has many points, it can have many bonuses. (Production Manager, Factory A, 2018)

The total amount sent on bonuses for improvement activities quarterly was not fixed, as it depended on the company's annual revenue and budget. Also, another bonus policy for continuous improvement activities existed, whereby mid- and lower-level managers were empowered to immediately reward 100,000 VND and 50,000 VND to subordinates who developed good improvement ideas. However, the Board of Directors did not provide a specific guideline for the immediate rewards. Instead, the mid- and lower-level managers set their own criteria and prepared their own paperwork to assign immediate bonuses to employees. After being approved by the production managers, the workers could go to the accounting department to receive their bonuses.

Given that N&TCo decided to apply a new continuous improvement routine into the production routine cluster, most interviewees agreed that the continuous improvement routine fitted well with the production routines of the mid-level managers and some groups of the lower-level managers such as the foremen and team leaders. Specifically, interviewees suggested that the number and quality of improvement initiatives from production managers, foremen, and team leaders had increased significantly since the adoption of the continuous improvement approach. A potential reason for this development was that the production managers, foremen, and team leaders were used to calculating cost savings and benefits that would arise from their initiatives. The Secretary of the CIC remarked:

> The number of factories' improvements [in 2019] is increasing compared to previous years. The production managers were trained on a Lean Six Sigma course in which they were taught how to convert the costs and benefits in monetary terms. Therefore, their ability to identify improvements, as well as their ability to convert the benefits and costs of improvements into money has been improved. (Secretary of the Continuous Improvement Committee, 2019)

The application of the continuous improvement routine into the production routine cluster, and the necessity to calculate cost savings and benefits, shifted the focus of the production managers, foremen, and team leaders from a production orientation to an economic orientation. In early interviews with mid-level managers and some lower-level managers, interviewees initially only focused on managing input, productivity, and output quality. However, with the adoption of the continuous improvement routine during the time of our investigations, these interviewees increasingly mentioned calculating the benefits and costs of their improvements and demonstrated how much money or value their improvement initiatives could bring to their company. Over the course of the interviews, interviewees more and more used economic terms such as “profit”, “benefit”, “cost”, “efficiency”, “value”, or “money” when mentioning the continuous improvement routines. In other words, the application of the continuous improvement routine into the production routine cluster, as well as the necessary underlying cost calculations therein, changed the production orientation of a group of actors in the company from focusing on the quantity and quality of output to economic efficiency. This is exemplified by a quote from the Production Manager of Factory A:

> Previously, people only focused on their assigned tasks. But now they have to start thinking more, rather than just be concerned with their output numbers as before. They have to think about how to have good innovations for the company. (Production Manager, Factory A, 2019)

At the same time, when directly asked for shifts in their thinking, the majority of the mid- and lower-level managers interviewed claimed that the continuous improvement routine did not affect their production routines cluster, as it only required thinking and creativity. In fact, many interviews did not view the generation of continuous improvement suggestions as “work”, but only as “thinking”. For example, the Foreman of Factory B remarked:

> Our work is not affected at all […] It [the continuous improvement activities] only requires thinking, no matter we are at work or at home. It doesn't require us to make continuous improvement during working hours. That is just thinking only. (Foreman, Factory B, 2018)

Some lower-level managers argued that the main reason that they integrated the continuous improvement routine into their production routines was their passion for the job and desire to learn. According to the Foreman of Factory A:

> In continuous improvement, it [improvement ideas] does not come out of itself. But it comes from the passion for the job. You have to love the job, then you can have ideas for improvement. (Foreman, Factory A, 2018)

Meanwhile, mid-level managers of the factories believed that putting continuous improvement into their KPIs was one of the main motivations to participate in continuous improvement, even though the continuous improvement accounted for a relatively small proportion of performance comparing to other indicators such as productivity or product quality. One interviewee explained:

> There is no reprimand, but there is a performance evaluation. For example, the manager has two or three initiatives every month, while another manager has no initiative at all. When evaluating the performance of an individual, the performance results of the manager who has no initiative are also limited. Therefore, the level of consideration, wages, and salary increases will be affected. (Production Manager, Factory A, 2018)

The above quote reveals that another factor made production managers, foremen, and team leaders adapt rather smoothly to the continuous improvement routine: the continuous improvement routine helped them to improve other indicators in their KPIs such as productivity or product quality. It thus enabled them to increase their overall KPIs, salaries, and bonuses. The Production Manager of Factory C added:

> This is because the salary of the managers will be multiplied by the KPIs […] When improvements are made, the managers' productivity will also be higher. That will increase the productivity indicators in the KPIs of these managers. In addition, people try to come up with improvement ideas to increase continuous improvement indicators in their KPIs. These two indicators affect their KPIs as well as their salaries. (Production Manager, Factory C, 2019)

Lower-level managers also believed that apart from increasing KPIs and salaries, the continuous improvement routine allowed their production routines cluster to become easier and more convenient as noted by one informant:

> We only think about how to make more continuous improvements so that it can help us first, then the company. We want to find new improvements to make our work easier, more efficient, increase productivity or reduce labor insecurity. (Foreman, Factory B, 2018)

Although the dedicated reward policy for continuous improvement did not seem to be an important factor in motivating actors at the factories to engage in the continuous improvement routine, it made them more "excited" to engage in innovation. The Foreman of Factory B added:

> The reward of the Continuous Improvement Committee is good, but it is not the most important factor for us. Of course, when receiving the rewards, everyone in the company will be more excited to participate in this activity. (Foreman, Factory B, 2018)

In contrast to the production managers, foremen, and team leaders, there were few group leaders who regularly engaged in making suggestions for improvement. During the field work, there were no improvement initiatives in line with the new continuous improvement routine from any rank below team leader. As the group leaders held the lowest managerial positions, the continuous improvement indicators occupied lower proportions of their KPIs compared to higher-ranked managers. As a consequence, group leaders did not have much incentive to engage in the continuous improvement routine, or to urge their workers to engage in the routine.

Similarly, given that the performance evaluation routine of the workers included only the attendance and productivity indicators, general workers were uninterested in making improvements.

Notably, the top and mid-level managers did not want to pressurize group leaders and workers as the company witnessed a high employee turnover rate because the wage regime of N&TCo for the lower-level managers and workers was not competitive relative to local peers. Thus, the employee turnover rate was very high at the lower levels of its hierarchy. Given such high turnover, the continuous training of new employees prevented group leaders and workers from knowing the firm and its operations well enough to make improvement suggestions and/or have time to develop such suggestions. The Production Manager of Factory B explained:

> Yes, the employee turnover rate of my factory even is higher than that of Factory A […] That is too difficult because there are so many new workers in the factory, so I have to train them a lot. How can they make improvements when the works in the factory are very new to them? (Production Manager, Factory B, 2018)

There was also a perception that the immediate bonus policy for good initiatives was relatively low for group leaders and workers, and it was not attractive enough for them to integrate the continuous improvement routine into their production routines cluster. According to the Foreman of Factory A:

> That is only worth 40,000 to 100,000 VND. It is not remarkable. For example, the current salary of a worker is 5 million VND. It will be another story if the bonus is 4 million VND. They do not think about immediate rewards. They only think about how the improvement has helped them in the first place. (Foreman, Factory A, 2018)

Mid-level managers also suggested that another factor influencing the integration of the continuous improvement routine into the production routines cluster of the group leaders and workers was the level of expertise. Many workers came from poor areas and mountainous provinces of Vietnam and had relatively low qualifications. On the other hand, production managers, foremen, and team leaders were all trained in the continuous improvement approach through the Lean Six Sigma courses; the group leaders and workers were only briefly instructed by the foremen and team leaders on filling out the forms for the continuous improvement initiatives. Therefore, group leaders and workers were not fully informed about the continuous improvement approach and the necessary cost calculation techniques therein.

Finally, although the continuous improvement routine was adapted well to the production routine cluster of the production managers, foremen, and team leaders, it also indirectly affected the production routines cluster of the group leaders and workers. Senior and mid-level managers believed that the application of the continuous improvement routine enabled the production routines cluster to become leaner by reducing the waiting time between production stages, reducing redundant operations, or minimizing unnecessary moving in production. It thus enabled N&TCo to increase productivity, reduce costs, reduce labor power, or even improving workplace ergonomics. For instance, the Deputy Director of N&TCo explained:

> The continuous improvement approach helped our factories to promote lean manufacturing. First, continuous improvement makes the production system always ready including production stages, machinery, and supplies. In addition, via this approach, our factories reduced ergonomics costs such as reducing redundant manipulation and operations as well as fix other manufacturing errors. (Deputy Director of N&TCo, 2019)

5. Discussion and concluding comments

Most extant management accounting literature on the emergence and dynamics of individual management accounting routines (e.g., Bertz and Quinn, 2022; Lukka, 2007; Oliveira and Quinn, 2015; Perren and Grant, 2000; Quinn, 2011, 2014; Quinn and Hiebl, 2018; van der Steen, 2009, 2011) has focused on individual routines, and not on interactions between management accounting routines. Likewise, rapidly growing insights on complementarities between management accounting practices (e.g., Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Merchant and Otley, 2020) has focused on the interaction between such practices, and has mostly drawn on quantitative research methods and not looked into the more detailed dynamics of such complementarities. This study therefore adds to the literature by providing an in-depth examination of the integration of a new management accounting routine into a routine cluster.

By drawing on the case of N&TCo to examine the adoption of a new management accounting routine into a routine cluster, the findings are broadly in line with the logic of complementarities proposed by Kremser and Schreyögg (2016). The present research indicates that the continuous improvement routine had been well integrated into the production routines cluster as it had low misfit costs. That is, the adoption of the new management accounting routine into the production routine cluster did not change the existing production routines materially. Rather, it required brainstorming by mid- and lower-level managers to come up with improvement initiatives and demonstrate how their suggestions benefitted the company. Furthermore, the application of the new management accounting routine complemented the production routine cluster by reducing workload, increasing work comfort, enhancing lean manufacturing leading to cost reductions, and increased productivity and quality.

Although this study thus generally supports Kremser and Schreyögg (2016) on the logic of complementarities, its adds to their work by showing that not all actors in a routine cluster could accept and integrate the new routines simultaneously. In particular, the case study highlights that even after two years of a new continuous improvement routine, only actors at managerial levels – production managers, foremen, and team leaders – could integrate this new routine into their production routines. In contrast, actors at the lowest levels – that is, group leaders and workers – could not well integrate this new routine into their work. Hence, we propose that apart from misfit costs as noted by Kremser and Schreyögg (2016), there are other factors that influence the integration of new routines into a routine cluster. This research shows that one of the driving forces for the foremen/team leaders to integrate the continuous improvement routine into their production routines was “passion for work” and “desire to learn”. The managers interviewed believed that the level of expertise affected the integration of the new management accounting routine into a production routine cluster: lower levels of expertise made it more difficult for group leaders and workers to adopt the continuous improvement routine.[8]

This study also enriches research on management accounting as a package/system and management accounting complementarities by providing more in-depth field-based evidence (e.g., Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Merchant and Otley, 2020). Specifically, this research shows that the observed interaction between the existing performance evaluation and reward routine and the new continuous improvement routine can be considered complementary – at least for most mid- and lower-level managers. The application of the performance evaluation and reward routine enhanced the continuous improvement routine by integrating the rewards for continuous improvement initiatives in the performance evaluation and reward routine through respective indicators. Thus, these two management accounting routines were not just complementarity in terms of not substituting each other. Rather, the integration of continuous improvement indicators in the performance evaluation and reward routine was intertwined. When interpreted with the help of the loose coupling notion suggested by Demartini and Otley (2020), it could be argued that routines being intertwined can be regarded as more closely coupled. The case evidence here adds more in-depth evidence of such loose or closer coupling and implies that future research on the

[8] It could be argued that missing expertise and education per se represents misfit costs. However, per the definition of Kremser and Schreyögg (2016), misfit costs are the costs of developing new routines and integrating them into the interfaces established by an existing routine architecture. This definition does not seem to encompass involved actors’ missing expertise and education.

interaction between management accounting and control practices may need to further distinguish the exact ways such practices are complementing each other. This study shows that it is possible to at least distinguish between (i) the cases where such practices may complement each other by "standing side-by-side" and not substituting each other in fostering some desired effect, and (ii) cases where the outcome of one management accounting practice (here, the new continuous improvement routine) features in another management accounting practice (the performance evaluation and reward routine). Existing quantitative research literature on complementarities between management accounting and control practices (e.g., Demartini and Otley, 2020; Grabner and Moers, 2013; Malmi and Brown, 2008; Merchant and Otley, 2020) has not distinguished between such different forms of complementarity. For the lowest-level managers and workers, intertwinedness was not observed as the continuous improvement routine did not feature in their reward schemes; which may be more in line with the definition of loose coupling by Demartini and Otley (2020). The new routine could still be regarded as complementary for the workers and group leaders at N&TCo as they could earn extra awards and bonuses, but the outcomes of the new continuous improvement routine was not intertwined with their performance evaluation and reward routine. Thus, apart from their missing experience and education, evidence of a missing intertwinedness was apparent, which left the lowest-level actors less interested in engaging heavily in the continuous improvement routine.

Finally, the results contribute to literature on management accounting in less developed countries. Unlike most existing review studies (e.g., Hopper et al., 2009; Ndemewah and Hiebl, 2021; van Helden and Uddin, 2016; van Helden et al., 2021), the case here does not suggest that the actors at N&TCo only adopted the new continuous improvement routine due to external pressure. In contrast, and especially due to the intertwinedess of the new continuous improvement routine and the existing performance evaluation and reward routine, mid- and lower-level managers at N&TCo did not resist the new routine as was observed in many other case studies of emerging-country organizations (e.g., Aliabadi et al., 2021; Harahap, 2021; How and Alawattage, 2012). This case research thus suggests that such resistance may be low or non-existent if the newly introduced management accounting practices are well intertwined with existing practices. A proviso should be noted however in that existing management accounting practices such as the performance evaluation and reward routine were not seen critically in the first place by any interviewees.

Like any research, the findings presented here are subject to some limitations. Firstly, although it was planned to conduct interviews with all hierarchical levels to get a comprehensive view of routine changes and interactions, fewer opportunities presented to interview team leaders, group leaders, and workers due to their fear of disclosing sensitive information to the public media – which seems to be common phenomenon in Vietnam (cf. Nguyen and Hiebl, 2021). Thus, while the narrative is based mainly on views of senior managers, mid-level managers, and some lower-level managers, their comments were continuously verified to minimize individual bias through cross-checks between informants throughout the interview process. In addition, due to limited access, only interactions between the performance evaluation and reward routine and the continuous improvement routine and its effect on the adoption of a new management accounting routine into a routine cluster could be studied. Thus, an important avenue for future research is to examine interactions between the management accounting routine cluster and other routine clusters in N&TCo and of course other firms. In addition, the interviews and data were collected over a time frame of two years, and it was thus not possible to observe the evolution of the new routine in the production cluster in the long term. Further research might therefore analyze integrations of new routines into routine clusters, and the evolution of a routine cluster, across a longer time frame (cf. Quinn, 2014).

References of Section D

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Appendix of Section D

Table AI. Overview of interviews

No.	Date of interview	Interviewee	Duration of interview (min.)
1	26/04/2018	Deputy Director of N&TCo	64
2	11/05/2018	Production Manager of Factory A	55
3	06/06/2018	Production Manager of Factory A	58
4	10/07/2018	Manager of Quality Control Department	59
5	12/07/2018	Manager of IWAY Board	20
6	12/07/2018	Former Secretary of the Continuous Improvement Committee	45
7	20/07/2018	Foreman of Factory A	58
8	31/07/2018	Foreman of Factory B	65
9	05/08/2018	Production Manager of Factory B	63
10	13/05/2019	Production Manager of Factory A	45
11	23/05/2019	Staff of Planning Department, Secretary of the Lean Sig Sigma Committee	52
12	23/05/2019	Production Manager of Factory B	45
13	13/06/2019	Production Manager of Factory A	45
14	26/06/2019	Foreman of Factory B	60
15	30/07/2019	Manager of IWAY Board	55
16	20/8/2019	Secretary of the Continuous Improvement Committee	82
17	12/09/2019	Manager of Supply Department	42
18	12/09/2019	Production Manager of Factory C	50
19	12/09/2019	Manager of Electromechanical Department of Factory A	30
20	27/09/2019	Deputy Director of N&TCo	30
21	9/10/2019	Staff of Quality Control Department	32

E. Conclusion

This dissertation has sought to contribute to existing management accounting literature by focusing on three different issues: first, the reaction of individual actors to the use of management accounting in response to hybridization processes; second, the role of management accounting in addressing stretch goals; and finally, the interaction between multiple management accounting routines and its impact on the application of a new management accounting routine. Although the three papers above cover a variety of different issues, they are bound together by a central theme which is the role of management accounting change in emerging-market organizations.

By drawing the case study of a Vietnamese university hybridization, the first paper highlights the role of organizational leaders as advocates in realizing hybridization in which the senior managers of VNUni have used management control systems including performance measurements and incentive systems to impose their will and change other actors' behavior toward hybridization. However, the first paper shows that such advocates were not skilled enough to introduce new logics to protectors (lecturers), who then resisted the new logics more openly. Hence, this study argues that the response of other actors to using management controls for hybridization depends very much on the skills and courses of action of such advocates. Secondly, unlike previous studies on management accounting in emerging countries (e.g. Hopper *et al*., 2009), this paper does not indicate that compartmentalization strategy and management control practices including performance measurement and incentive compensation per se were contested. Instead, my evidence suggests that the actors at VNUni were primary against the content and formulae of those management control practices such as how business performance was measured or how the funds were distributed between colleges and VNUni's central administration. Third, unlike the previous studies on compartmentalization strategies as a response to competing institutional logics (Kastberg and

Lagström, 2019; Schäffer *et al*., 2015), my case study adds that such compartmentalization remained uncontested, as measurement and control of existing logics remained mostly untouched. Finally, the first paper proposes the notion of "partial hybridization" which presents a phenomenon where not all units in an organization are equally hybridized. As a result, I argue that partial hybridization can be one of the main causes of resistance toward hybridization where unfair treatment occurs between more hybridized and less hybridized units.

The second paper draws on a comparative case study of two Vietnamese organizations to explore the role of incentive compensation in realizing stretch goals. The findings of this study seem to contradict the suggestion of Sitkin *et* al. (2011) as the adoption of stretch goals in MTUni had a disruptive effect on organizational performance despite having low recent performance and high levels of slack resources, whereas the use of stretch goals at Furniture Company had facilitative effects on organizational performance despite having high recent performance and low level of slack. This study also adds to the study of Sitkin *et al*. (2011) that besides two key contingency determining factors including recent performance and level of slack resources, pressure from external parties such as political actors, clients, or suppliers may affect the likelihood of adopting stretch goals. Furthermore, this study argues that in addition to recent performance and level of slack as suggested by Sitkin *et al*. (2011), incentive compensation plays an important role in determining the (positive and negative) effects of stretch goals on organizational performance. Specifically, my evidence shows that removing incentive compensation causes fear and stress on the actors engaging in stretch goals when they could realize how their benefits would be affected if they didn't achieve stretch goals. From there, it forms fraudulent and resistant behaviors in the organization and leads to negative effects on organizational performance. In contrast, adding incentive compensation not only reduces fraudulent and resistant behaviors but also increases the facilitative effects of stretch goals on organizational performance. This study also contributes to the literature on management accounting in emerging countries by arguing that apart from the misalignment of values as suggested by the studies of Hopper *et al.* (2009) and Ndemewah and Hiebl. (2020), the economic interests of stakeholders affected by the adoption of western management accounting practices could be a major source of challenge and resistance.

The last paper is not only based on the logic of complementarities suggested by Kremser and Schreyögg (2016) and the literature regarding management accounting complementarities but also employs an in-depth case study in an emerging country to investigate the role of interactions between multiple management accounting routines in integrating a new management accounting routine into a routine cluster. Although this finding is consistent with the logic of complementarities proposed by Kremser and Schreyögg (2016), this study indicates that there are also other factors such as the involved actors' "passion for work" and "level of expertise" that can affect the adoption of new management accounting into a routine cluster. Furthermore, this study distinguishes between cases where management accounting routine complementarities are reflected through (i) routines being standing side-by-side and not substituting each other and (ii) routine being intertwined. Finally, this study indicates that the existing and the new management accounting routine being intertwined facilitates the integration of the new management accounting routine into a routine cluster.

Summarizing the dissertation, my main findings indicate that the adoption of western management accounting practices in emerging countries is not impossible as my evidence shows that western management accounting per se is not contested due to differences in culture and value, but rather its content and formula which affects the interests of the stakeholders. Thus, if the organizational leaders in emerging countries are skilled enough to balance the interests of the stakeholders via management control practices, especially incentive schemes, to motivate them to accept new advanced management accounting practices, it may have a facilitative effect on organizational performance. On the other hand, if the economic interests of stakeholders are affected by the adoption of new management accounting practices, it may not only have a disruptive effect on organizational performance but also leads to controversy and even resistance.

However, this dissertation has several limitations which provide opportunities for future research. First, because the senior leaders in my case studies were concerned about exposing sensitive information to the public media that could damage their organizational image, I had very little opportunity to interview subordinates in both my case studies such as the lecturers in the case study of a Vietnamese public university or the team leaders, group leaders and workers in the case study of a Vietnamese manufacturing company. Although the views of the subordinate on the role of the management accounting and controls in both of my case studies were mainly based on the senior managers' narrative and perspective, I continuously verified the information and reduced the individual bias through cross-checks between the informants during my interview. Besides, because data and interviews in my case studies had only been collected over two to three years, this dissertation was unable to observe the role of management accounting and controls in changing institutions in the longer term. Thus, further research might remedy such deficiencies in the near future.

Reference of Section E

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