



TESIS DOCTORAL/ DOCTORAL DISSERTATION

Three Papers in Management Accounting and Control

Gianluca Fabrizio Delfino

SEGOVIA, 2023



IE UNIVERSIDAD

TESIS DOCTORAL/ DOCTORAL DISSERTATION

Tres Artículos en Contabilidad de Gestión y Control

Gianluca Fabrizio Delfino

Doctoral Thesis Advisor: Marco Trombetta

This page has been left blank on purpose

I am deeply grateful to everyone who has supported and encouraged me throughout my PhD journey.

First and foremost, I would like to express my sincere gratitude to my supervisor, Dr. Marco Trombetta, for his guidance, support, and continuous encouragement.

I would also like to extend my heartfelt thanks to my co-authors, Dr. Berend Van der Kolk and Dr. Anisa Shyti, for their significant contributions, constructive feedback, and inspiring collaboration on various aspects of this thesis. Their expertise and dedication have played a crucial role in the completion of my research.

To my family, thank you for your love, understanding, and support throughout my academic journey. I am especially grateful to my brother Massimiliano for his constant presence and help during all my PhD Journey.

My friends, both near and far, deserve special mention for their encouragement, and constant presence in my life. In particular, I want to express my gratitude to Lorenzo, who has always been a central part of my life and provided unwavering support throughout my academic journey. Furthermore, I sincerely thank Francesco from the depths of my heart for his invaluable contributions both as a cherished friend and as a professional colleague.

To my girlfriend, Catherine, although we have been together only for a short time, your constant support and love have been invaluable.

To all my future colleagues and mentors, especially Lukas Goretzki and Kalle Kraus, who have shown support and trust in me, I am grateful for your confidence.

To my current colleagues, such as Antonio de Vito, I am grateful for their constant support and informal chats.

I would also like to express my appreciation to the members of the Committee for taking the time to review and evaluate my thesis. Your expertise and valuable feedback have been instrumental in shaping my research.

Finally, I dedicate this thesis, *'Three Papers in Management Accounting and Control,'* to everyone who has played a part in my academic journey. Your collective support, wisdom, and encouragement have made this achievement possible, and I am truly grateful.

Table of Contents

1. Overview of the Thesis	6
2. Chapter 1: Remote Working, Management Control Changes, and Employee Responses During the COVID-19 Crisis	7
2.1. Abstract, Introduction and Conclusions in Spanish Language...	8
2.2. Introduction	12
2.3. Background.....	13
2.4. Method	14
2.5. Field Study	17
2.6. Conclusion	28
2.7. References.....	31
3. Chapter 2: How Performance Management Systems Impact Employee Wellbeing and Motivation: A Recognition Theory Perspective	33
3.1. Abstract, Introduction and Conclusions in Spanish Language....	34
3.2. Introduction	41
3.3. Literature.....	45
3.4. Research Method	51
3.5. Field Study	55
3.6. Discussion	79
3.7. Conclusions	84
3.8. References.....	87
3.9. Appendixes.....	91
4. Chapter 3: The Attention-Directing Role of Operating Risk in Managerial Project Selection Decisions	98
4.1. Abstract, Introduction and Conclusions in Spanish Language.....	99
4.2. Introduction	108
4.3. Related Literature.....	112
4.4. Method	119
4.5. Experimental Design	121
4.6. Results	125
4.7. Discussions and Conclusions	133
4.8. References.....	139
4.9. Appendixes.....	142
5. Final remarks	143

1. Overview of the Thesis

This thesis, titled *‘Three Papers in Management Accounting and Control,’* presents a collection of three distinct yet interconnected chapters that follow a chronological order, reflecting my evolving research interests and aspirations in the field of management accounting. The first two chapters share a common theme: the exploration of professional service firms (PSFs) and how they design and use their management control systems. The third chapter diverges slightly, as it delves into the concept of operating risk, a topic that has captivated me since the beginning of my PhD journey. In the future, I aim to merge these areas of interest, examining the interplay between operating risk and controls as a means to manage firm risk and profitability potentials.

The first chapter, *‘Remote Working, Management Control Changes and Employee Responses During the COVID-19 Crisis,’* investigates the impact of the sudden shift to remote working on management control practices in PSFs and explores employee responses to these changes, and was published by Accounting, Auditing and Accountability journal (Delfino & Van der Kolk, 2021).

The second chapter, *‘How Performance Management Systems Impact Employee Wellbeing and Motivation: A Recognition Theory Perspective,’* adopts recognition theory to examine the relationship between performance management systems and employees’ wellbeing and motivation in a large consulting firm. These first two chapters provide valuable insights into the inner workings of PSFs and contribute to the growing body of literature on management control, performance management, and motivation.

The third chapter, *‘The Attention-Directing Role of Operating Risk in Managerial Project Selection Decisions,’* focuses on the influence of operating risk information on managerial decision-making in project selection, employing attention theory to investigate the impact of the degree of operating leverage and margin of safety on project choices. This chapter not only contributes to the management accounting literature but also lays the groundwork for future research at the intersection of operating risk and control systems.

Taken together, these three chapters address important aspects of management accounting and control in various contexts, as they highlight how key aspects of management control systems, performance management, and operating risk in affect managerial decision-making and employee behavior.

Through this thesis, I hope to offer valuable insights for academics and practitioners.

6. Chapter I

Remote Working, Management Control Changes and Employee Responses During the COVID-19 Crisis

ABSTRACT

Purpose: We examine the impact of the sudden shift to remote working, triggered by the COVID-19 crisis, on management control (MC) practices in professional service firms (PSFs). In addition, we explore employee responses to these changes.

Design/methodology/approach: We conduct a field study of MC changes in PSFs in Italy, the first country in Europe that was severely impacted by COVID-19. Interviews with PSF employees are our primary data source. We use pattern matching to identify similarities and differences, and investigate how employees respond to the MC changes.

Findings: As a response to the shift to remote working, managers at PSFs made various MC-related changes. For instance, they increased the number of online meetings and increasingly used technology to monitor employees from a distance. Employees reacted to this by engaging in ‘voluntary visibilizing practices’, i.e. by trying to make sure they got noted by their superiors, for instance by doing overtime. In addition, collected evidence suggests increased stress levels among employees, changes to employee autonomy, changed perceptions of hierarchies and a weakened sense of relatedness with others in the organization.

Originality/value: We are among the first to examine the impact of the sudden shift to remote working on MC, and contribute by exploring employee responses to the changes. Our findings add to the growing literature on MC and motivation, and we mobilize the notion of voluntary visibilizing practices to warn against over-commitment and self-exploitation.

Keywords: consulting, COVID-19, crisis, management control, remote working, teleworking

2.1. Abstract, Introduction and Conclusions in Spanish Language

Abstracto

Propósito: Examinamos el impacto del cambio repentino al trabajo remoto, desencadenado por la crisis de COVID-19, en las prácticas de control de gestión (MC) en las empresas de servicios profesionales (PSF). Además, exploramos las respuestas de los empleados a estos cambios.

Diseño/metodología/enfoque: Realizamos un estudio de campo de los cambios de MC en las PSF en Italia, el primer país de Europa gravemente afectado por el COVID-19. Las entrevistas con los empleados de PSF son nuestra principal fuente de datos. Utilizamos ‘pattern matching’ para identificar similitudes y diferencias, e investigar cómo responden los empleados a los cambios de MC.

Hallazgos: Como respuesta al cambio al trabajo remoto, los gerentes de PSF realizaron varios cambios relacionados con MC. Por ejemplo, aumentaron la cantidad de reuniones en línea y usaron cada vez más la tecnología para monitorear a los empleados a distancia. Los empleados reaccionaron a esto participando en ‘prácticas voluntarias de visibilidad’, es decir, tratando de asegurarse de que sus superiores los notaran, por ejemplo, trabajando horas extra. Además, la evidencia recopilada sugiere mayores niveles de estrés entre los empleados, cambios en la autonomía de los empleados, cambios en la percepción de las jerarquías y un sentido debilitado de relación con otros en la organización.

Originalidad/valor: Estamos entre los primeros en examinar el impacto del cambio repentino al trabajo remoto en MC y contribuimos explorando las respuestas de los empleados a los cambios. Nuestros hallazgos se suman a la creciente literatura sobre MC y motivación, y movilizamos la noción de prácticas voluntarias de visibilización para advertir contra el compromiso excesivo y la autoexplotación.

INTRODUCCIÓN

El trabajo remoto no es nuevo (Hafermalz, 2020), pero nunca antes tantas organizaciones se vieron obligadas a permitir que sus empleados trabajaran desde casa como en 2020, cuando la crisis del COVID-19 surgió a nivel mundial. Esto tuvo implicaciones significativas para las organizaciones, incluida la forma en que podían ejercer el control de gestión (MC, por sus siglas en inglés), es decir, ‘influir en el comportamiento de los empleados de manera deseable’ para alcanzar sus objetivos (Merchant y Van der Stede, 2007, p. 5). Si bien ciertos tipos de MC, como las reuniones informales en el almuerzo, las reuniones presenciales y las observaciones directas ya no eran posibles, la crisis impulsó el uso de nuevas tecnologías para trabajar, organizar y comunicarse, ofreciendo a los gerentes nuevas posibilidades de control. El impacto de estos cambios repentinos es un área en gran medida inexplorada. Además, se han identificado cambios en el MC en respuesta a las crisis (cf. Van der Stede, 2011) y sus efectos en el comportamiento y la motivación (Hall, 2016) como áreas importantes para futuras investigaciones. Por lo tanto, exploramos este tema realizando un estudio de campo en Italia, el primer país europeo afectado gravemente por la crisis del COVID-19. Organizaciones como las empresas de servicios profesionales (PSF, por sus siglas en inglés) probablemente se vieron afectadas por el cambio repentino al trabajo remoto, ya que la comunicación entre colegas y con clientes estaba extremadamente limitada, mientras que investigaciones previas identificaron esto como esencial para ofrecer un trabajo de alta calidad y mantener el control (Alvesson y Kärreman, 2004). Nuestros datos primarios consisten en entrevistas semiestructuradas con empleados que trabajan en grandes PSF en la primera mitad de 2020.

Basamos nuestra teoría en la teoría de la autodeterminación (Ryan y Deci, 2000) y en la noción de prácticas de visibilización voluntaria de Hafermalz (2020) para teorizar nuestros hallazgos relacionados con las respuestas de los empleados. Este estudio hace dos contribuciones. Primero, exploramos cómo ha cambiado el MC en las PSF como respuesta al cambio repentino al trabajo remoto. Ampliamos la investigación previa sobre la relación crisis-control (Van der Stede, 2011; Van der Kolk et al., 2015; Parker, 2020) y mostramos cómo las empresas realizaron cambios relacionados con el MC, por ejemplo, aumentando la cantidad de llamadas y reuniones en línea y utilizando plataformas en línea para monitorear el trabajo de los empleados. En segundo lugar, abordamos las solicitudes para estudiar las respuestas de los individuos a los cambios en el MC a nivel organizativo (Hall, 2016), centrándonos específicamente en aspectos de comportamiento y motivación. Discutimos cómo y por qué los empleados se involucran en prácticas de visibilización voluntaria (Hafermalz, 2020), es decir, tratar de asegurarse de que sean notados por sus superiores. Además, ampliamos la literatura contadura contable que examina el impacto del MC en la motivación (cf. De

Baerdemaeker y Bruggeman, 2015; Groen et al., 2017) al identificar cómo se abordan las necesidades de autonomía, relación y competencia ahora que los empleados trabajan desde casa.

CONCLUSIÓN

Este artículo comenzó preguntando cómo las prácticas de trabajo remoto provocadas por la crisis del COVID-19 afectaron al control de gestión (MC), y cómo los empleados respondieron a estos cambios. El estudio de campo de las empresas de servicios profesionales (PSF) en Italia presenta hallazgos que pueden informar a la literatura sobre MC, tanto empírica como teóricamente, y puede inspirar investigaciones futuras.

En primer lugar, ampliamos la literatura sobre crisis y control (Van der Stede, 2011; Johansson y Siverbo, 2014; Van der Kolk et al., 2015; Parker, 2020), examinando cómo y por qué varias PSF aumentaron su uso de controles de acción para sustituir la presencia física de los empleados. Especialmente, documentamos que algunos gerentes utilizaron paquetes de software para monitorear las actividades de los empleados e incrementaron la cantidad de reuniones digitales. Además, nuestros hallazgos indican que tanto supervisores como clientes se volvieron más exigentes, lo que en varios casos llevó a un control más estricto y limitante sobre los empleados. Además, el cambio repentino al trabajo desde casa desestabilizó las jerarquías existentes en las PSF. Aunque el método utilizado no permite sacar conclusiones generalizables, la evidencia recopilada sugiere que en casos de lazos sociales más fuertes (más débiles) entre empleados y gerentes, las jerarquías percibidas se aplanaron (aumentaron).

En segundo lugar, respondemos al llamado a relacionar los cambios en la contabilidad y el control a nivel organizacional con el nivel individual (Hall, 2016). Mostramos cómo las necesidades de autonomía y vinculación de los empleados se vieron afectadas por los cambios en el MC, y sugerimos que esto puede haber tenido un impacto en la motivación intrínseca de los empleados (cf. Ryan y Deci, 2000). Además, mostramos cómo los empleados responden a las nuevas formas de control al participar en prácticas de visibilización voluntaria, proporcionando así apoyo empírico para la investigación teórica de Hafermalz (2020) sobre las respuestas de los empleados al control a distancia.

Nuestros hallazgos tienen varias implicaciones en la contabilidad de gestión y el control. Mostramos cómo los cambios ambientales pueden traducirse en cambios en el MC a niveles inferiores de las organizaciones y cómo estos cambios afectan el comportamiento y la motivación de los empleados. Si bien algunos gerentes de PSF parecían cambiar casi 'automáticamente' a tipos de control más restrictivos como el monitoreo, demostramos cómo estos cambios pueden generar consecuencias no deseadas como estrés y oportunismo en la 'gestión de la reputación'. Además,

nuestros hallazgos sugieren que cuando se utiliza el MC de manera que aborde las necesidades de autonomía y vinculación, puede facilitar la motivación intrínseca de los empleados. Sin embargo, esta implicación viene con una advertencia. Las organizaciones y las prácticas de control que abordan de manera exitosa las necesidades de la SDT y facilitan la motivación intrínseca pueden correr el riesgo de provocar un compromiso excesivo y autoexplotación a largo plazo (cf. Hafermalz, 2020). Dado el temor de los empleados a perder sus empleos debido a la recesión económica, sus prácticas de visibilización "voluntarias" pueden adoptar formas aún más extremas de lo normal. Las investigaciones futuras podrían investigar más a fondo qué constituye un impacto "responsable" del MC en la motivación de los empleados, al mismo tiempo que explorar cómo se pueden prevenir problemas como el compromiso excesivo y la autoexplotación.

Aunque nuestros hallazgos proporcionan algunas ideas sobre los cambios provocados por la crisis del COVID-19, deben verse a la luz de las limitaciones de nuestro método de investigación. Es probable que solo hayamos observado efectos a corto plazo (dado el momento de nuestro estudio) y que se necesite más tiempo y distancia para poder ver el impacto completo de la crisis y el trabajo remoto en el MC. Otra limitación de nuestro estudio es que nos enfocamos en la perspectiva de empleados más jóvenes en organizaciones grandes. Este enfoque implica que otros temas interesantes de MC, como las compensaciones que los gerentes de nivel superior hicieron con respecto al MC en sus PSF, o los cambios en los presupuestos y objetivos financieros de nivel superior para ejercer control sobre los gerentes intermedios, quedan fuera del alcance de este estudio.

Animamos encarecidamente a investigaciones futuras a adoptar enfoques longitudinales para ver cómo se desarrollan las respuestas a esta crisis o la próxima en el tiempo. Además, futuras investigaciones podrían estudiar específicamente las intenciones de cambio de control de los gerentes en tiempos de COVID-19, para complementar nuestro estudio que se centró en las respuestas de los empleados a dichos cambios. Por último, el trabajo transversal podría ayudar a comprender por qué diferentes individuos, empresas e industrias tomaron diferentes decisiones de MC y qué consecuencias tuvo esto. Esperamos que las exploraciones en nuestro artículo proporcionen un punto de partida fructífero para futuras investigaciones sobre trabajo remoto, cambios en el control de gestión y respuestas de los empleados.

2.2. INTRODUCTION

Remote working is not new (Hafermalz, 2020), but never before were so many organizations simultaneously forced to let their employees work from home as in 2020, when the COVID-19 crisis surfaced globally. This had significant implications for organizations, including how they could exercise management control (MC), i.e., ‘influence employees’ behaviors in desirable ways’ in order to achieve their goals (Merchant and Van der Stede, 2007, p. 5). While certain types of MC, such as informal lunch gatherings, face-to-face meetings, and direct observations were not possible anymore, the crisis fuelled the use of new technologies to work, organize and communicate, offering managers novel control possibilities. The impact of these sudden changes is a largely unexplored area. Additionally, MC changes in response to crises (cf. Van der Stede, 2011) and their behavioral and motivational effects (Hall, 2016) have been identified as important areas for further research. Therefore, we explore this issue by carrying out a field study in Italy, the first European country to be severely hit by the COVID-19 crisis. Organizations such as professional service firms (PSFs) were likely to be affected by sudden shift to remote working, since communication among colleagues and with clients was acutely limited, while prior research identified this as essential to deliver high quality work and maintain control (Alvesson and Kärreman, 2004). Our primary data consists of semi-structured interviews with employees working in large PSFs in the first half of 2020. We draw on self-determination theory (Ryan and Deci, 2000), and Hafermalz’s (2020) notion of voluntary visibilizing practices to theorize our findings related to employee responses.

This study makes two contributions. First, we explore how MC has changed in PSFs as a response to the sudden shift to remote working. We extend prior research on the crisis-control relationship (Van der Stede, 2011; Van der Kolk et al., 2015; Parker, 2020) and show how firms made MC-related changes, for instance by increasing the amount of calls and online meetings, and by using online platforms to monitor the work of employees. Second, we address calls to study responses of individuals to organization-level MC changes (Hall, 2016), by focusing specifically on behavioral and motivational aspects. We discuss how and why employees engage in voluntary visibilizing

practices (Hafermalz, 2020), i.e. trying to make sure they get noted by their superiors. In addition, we extend the accounting literature that examines the impact of MC on motivation (cf. De Baerdemaeker and Bruggeman, 2015; Groen et al., 2017) by identifying how the needs for autonomy, relatedness and competence are addressed now that employees work from home.

2.3. BACKGROUND

MC consists of those activities and mechanisms that lead to an ‘increased probability that the organization’s objectives will be achieved’ (Merchant and van der Stede, 2007, p. 5; see also Malmi and Brown, 2008), and includes *cultural controls* (e.g. values), *action controls* (e.g. monitoring), *results controls* (e.g. performance measurement systems) and *personnel controls* (e.g. training). Prior research argued and demonstrated that crises may provoke changes in the use of accounting and MC instruments (Van der Stede, 2011). For instance, Johansson and Siverbo (2014) found that, in times of budget turbulence, organizations can respond by using tighter budget control. In their work, the authors argued that this functional response increased the likelihood of reaching budget targets. Van der Kolk et al. (2015, p. 936) found that, after the 2008 financial crisis, some organizations began emphasizing constraining types of MC (e.g. monitoring), which triggered ‘undesired’ employee responses.

Although there are similarities, the COVID-19 crisis is different from previous crises. For MC, the main difference lies in the fact that most organizations were this time forced to close their offices, the physical spaces that were identified by Parker (2020) as important means to exercise control. This not only had consequences on the organizational level, but also on the individual level. Research from a wide range of disciplines suggests that the quarantine (forcing employees to work from home) imposed by various governments may have caused serious negative psychological effects, including stress, fear and confusion (Brooks et al., 2020). In addition, it has been suggested that remote working can trigger unhealthy employee responses, such as over-commitment and self-exploitation, because employees want to make themselves ‘visible’ to their supervisors through, for

instance, overwork (Hafermalz, 2020). Although remote working and its effects on employee behavior have already received some research attention (cf. Hafermalz, 2020; Parker, 2020), the MC-related changes following the forced quarantine and their impact on employees has, to our knowledge, not been addressed in the literature.

Despite various calls, empirical evidence and theorization on the relationship between MC and employee responses is still scarce (Hall, 2016). In this respect, a notable exception from MC studies that rely on *self-determination theory* (SDT), which is increasingly mobilized to theorize relationships between MC and motivation (e.g. De Baerdemaeker and Bruggeman, 2015; Groen et al., 2017; Van der Kolk et al., 2019). SDT proposes that employees have three needs: a need for autonomy, a need for competence and a need for relatedness (Gagné and Deci, 2005). The extent to which organizations succeed in addressing these needs, perhaps using MC, impacts intrinsic motivation (Ryan and Deci, 2000). For example, relying on SDT, Van der Kolk et al. (2019) showed that the use of personnel control and cultural control had a positive impact on intrinsic motivation of employees, as these MC types address the needs for autonomy, competence and relatedness.

Prior research called for cross-level studies, investigating the interplay between organization-level aspects, such as MC, and individual-level aspects, such as employee motivation (Hall, 2016). Moreover, SDT has proven to be useful, theoretically informing such studies (cf. Groen et al., 2017; Van der Kolk et al., 2019). To extend the research in this area, Hall (2016, p. 70) points to the strong potential of field studies, indicating that an ‘important advantage of field studies is the ability to examine a broader range of psychological responses emanating from a management accounting practice.’ Following this suggestion, we carried out a field study to investigate how remote working impacted the use of MC in PSFs, and explore how these changes affected employees.

2.3. METHOD

We adopted a qualitative field study method as we deal with ‘how’ questions. We studied PSFs because, for these organizations, knowledge transfer and communication within teams and with

clients is key, both for delivering high-quality work and for maintaining control (Alvesson and Kärreman, 2004; Morris and Empson, 1998). Since the forced quarantine limited the possibilities for knowledge transfer and communication, we expected to find changes in the use of MC. Moreover, we chose PSFs in Italy because it was the first European country to be severely hit by the COVID-19 virus. Hence, firms operating here had more experience in dealing with the changes at the time we carried out our research.

From May to June 2020, we held 15 semi-structured interviews with people working for large PSFs in Italy (see Table 1). Since we were interested in employee responses to MC, we focused on employees *subjected* to MC, including apprentices, analysts, and consultants. From Tessier and Otley (2012), we know that *managerial intentions* and *subordinate perceptions* can differ, even when discussing the very same MC element. We therefore complemented the thirteen ‘employee’ interviews with two ‘supervisor’ interviews, i.e. interviews with those who *employed* MC elements. In this way we obtained a more balanced understanding of MC changes in PSFs than we would otherwise have gotten (cf. Tessier and Otley, 2012), although our main focus remained on the employee perceptions and their responses to the MC changes. Our focus on junior employees implies that we do not study MC changes at higher levels of the PSFs (e.g. budget-related changes, made by top managers).

The average work experience of interviewees is about 3 years. Interviewees were recruited via chain referral sampling.¹ We interviewed individuals with different function titles from seven different PSFs, three of which are Big-4 firms (Table 1). Interviews were held in English and Italian, and were recorded using online video-call software, for which interviewees gave consent. We stopped conducting interviews when we stopped hearing ‘new’ information (i.e., when we reached theoretical saturation, see Flick, 2009, p. 119). For each interview, a two-page report was written with the main findings, and all relevant sections were transcribed.

¹ Our interviewees frequently interacted with former university classmates who worked at other PSFs, and with more senior employees in the same firm, to discuss work-related issues. Their networks and connections helped us to identify more potential interviewees for this study.

An interview guide was developed to ensure we consistently addressed the relevant themes. After discussing the interviewees' background and position, we asked them about the used types of MC, and how MC changed when remote working started. For the MC-related questions, we relied on the interview guide from Van der Kolk (2019), which takes Merchant and Van der Stede's (2007) object-of-control framework as a starting point. We included questions such as *'How does your supervisor know you carry out your job well?'* (action controls) and *'Describe what types of outputs or outcomes of tasks and projects you are responsible for'* (results controls). In addition, SDT-related questions (Ryan and Deci, 2000) were asked, such as *'Do you feel you work autonomously? Has this changed since the quarantine started?'* (autonomy) and *'Do you feel you are now more or less connected to your organization, your colleagues and the work you do?'* (relatedness).

To make sense of the collected data, we adopted the well-established approach of pattern matching (Crang, 1997) to cluster and analyze the data. First, we focused on the most informative parts of the interview transcriptions that addressed (parts of) our research questions. Second, we made a structural description of the content of each of the interviews, including information about changes in the types of MC and employee responses. Third, we used thematic coding (e.g. theme: 'increase in action controls') to identify passages of text that were linked by common arguments. Hence, we compared the data and identified similarities and differences in the responses given by the interviewees. Arguments concerning similar themes were grouped together. After this, we identified the common patterns and developed the theorized narrative, guided by our research questions.

Table 1**Interview information**

<i>ID</i>	<i>Name*</i>	<i>Function title</i>	<i>Firm</i>	<i>Big-4 firm?</i>	<i>Length (min)</i>	<i>Date interview</i>
1	Laura**	Apprentice	A	Yes	52	24-5-2020
2	Giovanni	Apprentice	A	Yes	69	25-5-2020
3	Luca	Senior consultant	E	No	70	25-5-2020
4	Giulio	Senior consultant	A	Yes	49	26-5-2020
5	Luigi	Consultant	F	No	58	26-5-2020
6	Ivana	Consultant	B	Yes	57	26-5-2020
7	Giorgia	Senior auditor	C	Yes	58	28-5-2020
8	Antonio	Senior manager	E	No	64	28-5-2020
9	Alessandra	Senior consultant	C	Yes	52	01-6-2020
10	Diletta	Senior consultant	A	Yes	50	01-6-2020
11	Barbara	Analyst	C	Yes	43	02-6-2020
12	Sara	Consultant	A	Yes	42	03-6-2020
13	Manuela	Analyst	D	No	40	11-6-2020
14	Francesca	Analyst	C	Yes	46	13-6-2020
15	Gianfranco	Manager	G	No	50	18-6-2020

* = To protect the anonymity of the interviewees, fictional names are used and firm names are removed.

** = In addition, we held a brief follow-up interview with Laura in October 2020 to address some questions from one of the anonymous reviewers.

2.5. A FIELD STUDY OF ITALIAN PSFs DURING THE COVID-19 CRISIS

PSFs and control before the crisis

Although we acknowledge that there may be local differences and exceptions, we first sketch the main activities of PSFs, and how MC was carried out before the COVID-19 crisis.

Junior employees in PSFs, i.e. those without managerial responsibilities, typically deliver services and advises to clients in teams with other consultants. Teams are often comprised of one (senior) manager and/or partner, and several consultants, analysts and interns, depending on the size of the project. The main tasks of apprentices, analysts and consultants are non-repetitive and client-oriented, and their main ‘product’ or ‘service’ is usually a document (e.g. a Microsoft PowerPoint presentation) that includes the main analyses and advises. Since knowledge and skills are paramount to ensure that high-quality work is delivered (Morris and Empson, 1998), PSFs often put much weight

on *personnel controls* such as the selection of employees with the appropriate profile and training. In general, this also means that employees used to receive some degree of autonomy. PSFs use *action controls* to ensure that deadlines and work hours are respected, and they are often required to justify their work hours (cf. Alvesson and Kärreman, 2004).

The ultimate responsibility for the work delivered often lies with the manager, who also provides direct feedback to the team. A senior manager (Antonio) indicated that for him it was always ‘extremely important to observe the team in action’. Before the COVID-19 crisis, feedback on finished tasks (i.e. *results controls*) was often provided in face-to-face meetings, individually or with the team.

With respect to the use of *cultural controls*, there seems to be some variance among and within PSFs, and our interviewees pointed to differences between Big-4 and non-Big-4 organizations. For instance, while interviewees in Big-4 PSFs would emphasize the existence of strong hierarchies, the non-Big-4 interviewees sometimes praised the ‘flatness’ of the organization and referred to colleagues as ‘family’. To illustrate this, Luca, a senior consultant working for a non-Big-4 PSF, describes his superiors as ‘friends who I often meet outside the office; our relationship is informal.’

MC changes

After the threat of the COVID-19 virus became clear, Italy locked down large parts of its north on March 8, after which it became the first country that went into full national lockdown two days later.² However, most interviewees told us that they already started working from home well before these official measures, around the end of February.³ Since employees who carried out ‘non-essential work’ were not allowed to go to the office or their clients office anymore, PSFs were forced to reorganize their way of working. In this section, we focus on the key MC-related implications of this change.

² *Wall Street Journal*: ‘As Virus Spreads, Italy Locks Down Country’, March 9, 2020.

³ On February 21, the Italian department of Health mandated forced quarantine for those individuals that might have been in contact with infected individuals. Source: <https://www.gazzettaufficiale.it/eli/id/2020/02/22/20A01220/sg>, accessed on June 23, 2020.

First, the use of various *action controls* soared, mainly to substitute those types of MC that were not possible anymore, such as (informal and formal) face-to-face contact. Most interviewees indicated that they had been involved in more video calls, and stressed that a substantial part of these extra calls were not ‘productive’ and could easily be avoided. The more junior employees felt that some of these calls were intended to ‘monitor’ them. For example, an analyst told us that, since the quarantine started, she has a scheduled call every morning at 9 AM:

‘Although sometimes I understand that doing these calls is important, because they help us to better coordinate, other times I feel that they [her supervisors] just want to ensure that everyone indeed starts working at 9 AM. Really, there isn’t always something that has to be discussed that requires a call.’ (Barbara)

Most of our interviewees also indicated that they perceived many calls as a *waste of time*: ‘[The call] lasted one hour. We just repeated the same points we had to cover in a later meeting with the audit team. What is the point of doing so?’ (Sara)

Firms used various software packages to cooperate online. All firms except firm E work with Microsoft Teams, which enables employees to see which colleagues are *online* or *offline*. When employees are *online*, their superiors can (video) call them, and most calls of our interviewees involved the activation of their webcam. Given that various interviewees reported a high number of daily video calls, they felt *constantly monitored*. ‘They must control and look at you’ complained Ivana. One young consultant revealed that she and her colleagues have ‘Skype always open, because in this way managers can control you and make sure you do your work, and observe whether you are in a meeting, in a call, or that you’re away’ (Laura)⁴.

⁴ When asked in a follow-up interview in October how Laura knew this about her colleagues, she clarified that she and her colleagues and friends working at different PSFs ‘cannot avoid discussing these issues’ since this practice quickly became commonplace among various PSFs. ‘Our *status* in the software is always visible to everyone.’

A senior manager indicated that the total number of meetings *had to* increase, to compensate for the lower effectiveness of *online* meetings:

‘the effectiveness of the calls to review documents and give feedback is much lower than in-person meetings. This is why we now do more [calls than we had meetings].’ (Antonio)

This quote also highlights that supervisors may *intend* to facilitate employees by organizing such online meetings (e.g. ‘give feedback’ to help them carry out their jobs). At the same time, junior employees could *perceive* such calls differently (e.g. as controlling or constraining). This is an illustration of the situation in which *managerial intention* and *subordinate perception*, related to the same MC element, can differ (cf. Tessier and Otley, 2012). However, regardless of how they experienced *action controls*, both managers and junior employees agreed on their increased use.

Various interviewees indicated that supervisors started to check their activities more often. A senior consultant explains:

‘instead of checking just the output [results controls], they [his supervisors] have inserted these *intermediate steps*, during which they check me and my work at the beginning and halfway.’ (Giulio, emphasis added)

Some interviewees suggested that this increased use of *action controls* is triggered by a combination of mistrust towards the team members and increased external pressure: ‘Managers feel pressured [because of the economic downturn and the fear they will not meet their budgeted targets] to the point that they think that increasing control will make the output look better’ (Giorgia). An interviewed manager of a non-Big-4 PSF was very clear about his reasons to monitor his team.

‘Since they’re not controlled [at home], I don’t take it for granted that they indeed deliver their work within the agreed deadlines [...] So, I have introduced *mini calls to make sure that they continue working.*’ (Gianfranco, emphasis added)

In other words, this manager acknowledged a lack of trust toward his team, which led him to check the team’s activities multiple times a day. This way he tried to ensure that good quality work would be delivered. This resonates with the observation by Van der Kolk et al. (2015) that managers, when faced with a crisis, use more *constraining MC*. Probably, the lack of physical nearness caused by remote working amplified this effect.

A novel element of the current crisis is that new online platforms allow much closer monitoring of employees than before. For instance, supervisors can receive a notification in Microsoft Teams whenever employees change their status (e.g. from offline to online). Some interviewees indicated that they would immediately receive a call from their supervisor the very moment they changed status, which they perceived as very controlling:

‘This is the old practice of always wanting to control the employee.’ (Ivana)

Such practices are reminiscent of the panopticon metaphor, as they allow ‘fine-grained observation and monitoring of employees, even at a distance’ (Hafermalz, 2020, p. 2).

The second change concerns the changed job design, job-related demands and expectations that managers have regarding the work of employees, which relate to *personnel controls* and *results controls* (Merchant and Van der Stede, 2007). The forced quarantine blurred the boundaries between work and private life, which affected employees in several ways. For instance, interviewees lamented that now ‘it is more difficult to call it a day’ (Luigi) and got the impression that they *always should be available*. Knowing that consultants have nowhere to go (because they are forced to stay at home),

some managers called employees late at night or gave very early deadlines. A junior consultant working for a Big-4 consulting firm reflects:

‘The hours we have to work really changed, because now my manager and the client ask us to do all the tasks, or at least many jobs, at any time [they choose]. That’s because they know you’re stuck at home and don’t have a problem to work on the task they want you to work on. So, it’s a problem for us to always be ‘available’ for them, 24 hours a day.’ (Laura)

The quarantine situation thus seemed to raise the expectations managers had about the work junior employees could get done and the hours they were available (*personnel controls*). Besides the managers, the clients also seemed to become more demanding during the quarantine period. A manager, who was in constant contact with his firm’s clients during the lockdown, commented:

‘The client was more worried – especially during the first weeks of the quarantine – because he was unsure whether we would be able to deliver the work within the agreed deadlines. Hence, it was my primary goal to *show to him* that we pay the same attention to the client and to the quality of our work. ‘ (Gianfranco, emphasis added)

In other words, the increased pressure on a manager from a worried client cascaded down to the managers’ subordinates. In addition, interviewees also suggested that more weight was placed on the PSFs’ services now that the clients were faced with increased economic uncertainty. Subsequently, this may have triggered tighter *action controls* (calls, meetings, checks) from managers, who felt pressured to ‘deliver’ what their clients want (cf. Johansson and Siverbo, 2014; van der Kolk et al., 2015).

A third issue relates to a change in the *cultural controls*. Our interview data suggests that the lack of face-to-face contact changed how employees perceived the organizational hierarchy. One

Gianluca F. Delfino

senior consultant in a non-Big-4 firm, who acknowledged to have strong social ties to his superiors, pointed out:

‘Since the quarantine started, I feel that the structure is less hierarchical. My partner involves me more, and all the other partners listen to my opinion now.’ (Luca)

A manager from the same firm (E) confirmed this and commented:

‘Before the quarantine, juniors and consultants never participated in [high level] meetings, but now we let them participate in these very important meetings with the partners themselves. We do this to let everyone participate.’ (Antonio)

Contrastingly, other interviewees (mostly from Big-4 firms, but not limited to Big-4 firms) experienced *more* hierarchical distance toward their supervisors, not in the least place because the ways in which they communicated changed: ‘I feel that the organization became more hierarchical. The communication is more complicated now. It takes more steps for a document now to reach the partner.’ (Giulio)

A senior consultant indicated that, since the quarantine, she was not allowed to carry out several more interesting and challenging parts of the job, usually done by more senior employees, such as direct contact with the client:

‘The hierarchy increased significantly. Before [the quarantine] my boss would delegate every aspect of the job to me [including client contact]. Now he does not let me have any interaction with the client.’ (Diletta)

Another senior consultant commented that - although she was almost promoted to manager - she was suddenly asked to do all sorts of bureaucratic tasks for her manager: ‘The hierarchical

distance *grew*; now my manager gives me things to do that he would not ask from me before the quarantine [because these tasks are *below* my abilities].’ (Francesca, emphasis added)

These different effects of remote working on hierarchy could relate to the employee-manager relation (during, but also before the crisis). Those employees who do not have strong ties, communicated less (and less informally) with their managers, which seemed to increase the perceived hierarchy.

‘[While remote working] I feel less connected to my manager. Now the communication is limited only to [discussing] the project.’ (Manuela)

Contrastingly, in cases of stronger social ties and more frequent interactions, remote working seemed to flatten the perceived hierarchy, since employees were now welcome in higher-level meetings and felt they had a bigger say now.

Social ties, which address employees’ need for *relatedness* according to SDT (Ryan and Deci, 2000), typically strengthen when employees and managers interact, formally and informally. Although the set up of our study does not allow making any general claims, it seems that remote working limits the possibilities to interact, and that those with weaker social ties to their manager perceive organizational hierarchies to increase.

Employee responses to the new MC elements

The aforementioned control changes triggered various individual-level responses (cf. Hall, 2016). Although there are exceptions, the majority of the interviewees indicated that they experienced more autonomy than before the lockdown. Various issues they would have asked previously to their supervisors were now dealt with differently:

‘While before the quarantine I would have asked my manager if I had a small doubt, but now I would ask a colleague [of the same level] on [Microsoft] Teams, to avoid disturbing my manager.’

(Alessandra)

This seems to be relevant, as, according to SDT, the *need for autonomy* is one of the three central needs of employees, and has the potential to enhance employees’ intrinsic motivation (cf. Ryan and Deci, 2000).

Yet, autonomy has also been described as a ‘sense of choice, volition, and *freedom from excessive external pressure* toward behaving or thinking a certain way’ (Ryan and Deci, 2000, p. 74, emphasis added). External pressure, in work situations of our interviewees, seems still very present: interviewees with junior positions indicated they experienced pressure to always ‘be available [for their supervisor]’, and reported to be stressed because of the pressure to work hard *and* to perform well. Furthermore, because of the economic downturn and the weak job market, they feared for their jobs. One interviewee highlighted that, because of the pressure, she wanted to show to her supervisors that she worked hard:

‘Now I start working from 8.30 AM *to show them* that I am online before *official* work time [9 AM].’ (Laura, emphasis added)

This behavior, triggered by the pressure and motivated by a desire to give supervisors a favorable impression, resonates with what Hafermalz (2020) coined *voluntary visibilizing practices*. Hafermalz (2020, p. 2) argues that remote-working employees, in *fear* of possible ‘exile’ and invisibility, *voluntarily* engage in actions that may be observed by supervisors ‘to make themselves visible at the perceived centre of organizational life’ in an effort to connect with others and obtain recognition. This goes well beyond the panopticon metaphor, because it not only explains the controlling aspect of monitoring, but also focuses attention on *voluntary* behavior. Although

Hafermalz based her conceptualization of exile on employee behavior in relatively stable organizations *before* COVID-19, this notion of voluntary visibilizing behavior also seems instrumental in describing employee responses in times of COVID-19. We could add that the enhanced fear of employees to lose their jobs because of the economic downturn may have amplified the extent to which employees engaged in visibilizing practices, and diminished the extent to which this happened truly voluntarily.

In addition, this behavior also closely relates to SDT's *need for relatedness*, i.e. 'the need to feel belongingness and connectedness with others' (Ryan and Deci, 2000, p. 73). Since 'normal' face-to-face meetings and (informal) gatherings were not possible during the quarantine, employees indicated they felt less related and more atomized. This seemed to impact particularly less-experienced employees, since those with more years of work already established more meaningful connections and social ties with their colleagues. Although we did not identify direct effects of MC changes on employees' need for competence, more indirectly, interviewees suggested that the number of *feedback moments* increased. Such feedback moments have the potential to address the *need for competence* - and eventually to intrinsic motivation - but only if the feedback is positive (Ryan and Deci, 2000).

As a response to the increased *action control* exercised by various supervisors, employees indicated that they used some 'tactics' to maintain a good reputation. An analyst at a Big-4 firm explains:

'You know, if your manager sends you a chat message and you wait too long, he really might think that you are not working. That's why I always *show that I am working*. If my manager sends me a text I just reply that I am in a call [even when this is not the case] and that I will be shortly back at him.' (Barbara, emphasis added)

Such conscious and opportunistic ‘reputation management’ seems a response to the more constraining types of control employed due to the new working conditions. Although in a different setting, this finding resembles the observation by Van der Kolk et al. (2015, p. 956) that, as a response to constraining types of MC introduced after a crisis, employees can react by engaging in ‘more opportunistic behavior’.

At the same time, various employees pointed out that they refrained from taking lunch or coffee breaks from work out of fear for their supervisors, who could call or check the employees’ status and find out that they left their computer. Yet, a Big-4 senior consultant felt that he could not complain about this situation and the stress this gave him:

‘In our world these issues are very *sensitive* [...] I don’t talk about this with my manager, since I don’t want to signal that I don’t want to work. Maybe he could get pissed off. The only people I can talk about this are my colleagues [at the same level], who agree with me.’ (Giulio, emphasis added)

The effects of the employees’ increased levels of stress do not stop here. One interviewee shared with us that the stress of remote working very seriously impacted her mental health, while other interviewees indicated they actively started looking for other work (‘Every day I check *LinkedIn*’), which suggests low levels of motivation among the employees.

Although no generalizations should be drawn from our explorative study, the collected evidence suggests that managers who provide more autonomy to their employees and employ less strict types of MC, have team members who seem more motivated. SDT suggests that in a situation in which an employee receives more autonomy, intrinsic motivation is facilitated (Ryan and Deci, 2000). One employee reflects on his work motivation and its relation with perceived autonomy:

‘I can always stop, run one hour outside, come back and continue to work. No one would ever tell me ‘*Where have you been?*’ They [my bosses just] check the results. [...] Clearly, I enjoy much more

autonomy and time now, and this is the case because I was able to make the most out of the new working conditions.’ (Luigi, emphasis added)

This resonates with SDT’s expectation that self-government of the working day (i.e. *autonomy*) is important for facilitating intrinsic motivation, and suggests that less *action control* can provide employees with a stronger idea of self-determination (cf. Merchant and Van der Stede, 2007; Ryan and Deci, 2000).

However, some critical remarks on autonomy and motivation should also be made. One interviewee (Luca), for instance, indicated that he was highly motivated and would even work ‘during the nights’, *because* his manager gave him much autonomy over his job and trusted him to carry it out well - without monitoring him constantly. On the one hand, in line with SDT, we could perhaps state that in this case it seems that autonomy indeed leads to a higher level of intrinsic motivation. On the other hand, however, we could question whether this is indeed true autonomy. It has been highlighted in the MC literature that technologies used for remote working can become means to exercise MC from a distance, ‘all the while preserving an *image* of staff autonomy’ (Parker, 2020, p. 1953, emphasis added). In other words, it may not be *true autonomy* that employees experience in this case, but rather a *surrogate*, a ‘calculated freedom subject to output controls’ (Parker, 2020, p. 1953). Additionally, it has been argued that strong motivation to engage in extra work has the potential to turn into over-commitment and self-exploitation, which could subsequently lead to higher levels of stress or even burnouts (cf. Hafermalz, 2020, p. 16). This observation underlines the need for the MC and motivation literature to reflect on the moral limits of efforts to enhance employee motivation.

2.6. CONCLUSION

This paper began by asking how the remote working practices triggered by the COVID-19 crisis impacted MC, and how employees responded to these changes. The field study of PSFs in Italy

presents findings that can inform the MC literature, both empirically and theoretically, and may inspire future research.

First, we extend the literature on crises and control (Van der Stede, 2011; Johansson and Siverbo, 2014; Van der Kolk et al., 2015; Parker, 2020), by examining how and why various PSFs enhanced their use of action controls to substitute for the employees' physical presence. Most notably, we document that some managers made use of software packages to monitor employees' activities, and increased the number of digital meetings. In addition, our findings indicate that both supervisors and clients became more demanding, which in various cases led to tighter, more constraining control over employees. Furthermore, the sudden change to working from home destabilized existing hierarchies in PSFs. Although the used method does not allow drawing generalizable conclusions, the collected evidence suggests that in cases of stronger (weaker) social ties among employees and managers, perceived hierarchies flattened (increased).

Second, we answer the call to relate organization-level accounting and control changes to the level of the individual (Hall, 2016). We show how employees' needs for autonomy and relatedness were impacted by the MC changes, and suggest that this may have had an impact on employees' intrinsic motivation (cf. Ryan and Deci, 2000). Furthermore, we show how employees respond to the new forms of control by engaging in voluntary visibilizing practices, thereby providing empirical support for Hafermalz' (2020) theoretical investigation of employee responses to control from a distance.

Our findings have several management accounting and control implications. We show how environmental changes can translate to MC changes at lower levels of organizations, and how such changes impact employee behavior and motivation. While some PSF managers seemed to switch almost 'automatically' to more constraining types of control such as monitoring, we demonstrate how such changes may yield unintended consequences such as stress and opportunistic 'reputation management'.

In addition, our findings suggest that when MC is used so that it addresses the needs for autonomy and relatedness, it may facilitate intrinsic motivation of employees. However, this implication comes with a warning. Organizations and control practices that all too successfully address SDT's needs and facilitate intrinsic motivation, may run the risk of provoking over-commitment and self-exploitation in the long term (cf. Hafermalz, 2020). Given the fear among employees of job loss because of the economic downturn, their 'voluntary' visibilizing practices may take even more extreme shapes than normal. Future research could further investigate what constitutes a 'responsible' impact of MC on employee motivation, while exploring how issues such as over-commitment and self-exploitation can be prevented.

Although our findings provide some insights into changes triggered by the COVID-19 crisis, they should be seen in the light of the limitations of our research method. It is likely that we merely observed short-term effects (given the timing of our study) and that it takes more time and distance to be able to see the full impact of the crisis and remote working on MC. Another limitation of our study is that we focused on the perspective of more junior employees in large organizations. This focus implies that other interesting MC themes, such as trade-offs that top managers made regarding MC in their PSFs, or the changes to higher-level budgets and financial targets to exercise control over middle managers, fall outside the scope of this study.

We strongly encourage future research to adopt longitudinal approaches to see how the responses to this crisis or the next unfold in time. Also, future research could specifically study managerial intentions of control changes in times of COVID-19, to complement our study that focused on employee responses to such changes. Lastly, cross-sectional work could help to understand why different individuals, firms and industries have made different MC choices and which consequences this had. We hope that the explorations in our paper provide a fruitful starting point for future research on remote working, management control changes and employee responses.

REFERENCES

- Alvesson, M. and Kärreman, D. (2004), 'Interfaces of control. Technocratic and socio-ideological control in a global management consultancy firm', *Accounting, Organizations and Society*, Vol. 29 No. 3–4, pp. 423–444.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., and Rubin, G.J. (2020), 'The psychological impact of quarantine and how to reduce it: rapid review of the evidence', *Lancet*, Vol. 395, pp. 912–920.
- Crang, M. (1997), 'Analysing qualitative materials', in R. Flowerdew & D. Martin (Eds.), *Methods in human geography*, (pp. 183–196), London, Addison Wesley Longman.
- de Baerdemaeker, J., and Bruggeman, W. (2015), 'The impact of participation in strategic planning on managers' creation of budgetary slack: The mediating role of autonomous motivation and affective organisational commitment', *Management Accounting Research*, Vol. 29, pp. 1–12.
- Flick, U. (2009), *An Introduction to Qualitative Research*, Sage Publications Inc, London.
- Gagné, M., and Deci, E.L. (2005), 'Self-determination theory and work motivation', *Journal of Organizational Behavior*, Vol. 26 No. 4, pp. 331–362.
- Groen, B.A.C., Wouters, M.J.F., and Wilderom, C.P.M. (2017), 'Employee participation, performance metrics, and job performance: A survey study based on self-determination theory', *Management Accounting Research*, Vol. 36, pp. 51–66.
- Hafermalz, E. (2020), 'Out of the Panopticon and into Exile: Visibility and control in distributed new culture organizations', *Organization Studies*, forthcoming. DOI: 10.1177/0170840620909962.
- Hall, M. (2016), 'Realising the richness of psychology theory in contingency-based management accounting research', *Management Accounting Research*, Vol. 31, pp. 63–74.
- Johansson, T. and Siverbo, S. (2014), 'The appropriateness of tight budget control in public sector organizations facing budget turbulence', *Management Accounting Research*, Vol. 25 No. 4, pp. 271–283.
- Merchant, K.A. and van der Stede, W.A. (2007), *Management Control Systems*, Pearson Education Limited, Edinburgh Gate.
- Morris, T., and Empson, L. (1998), 'Organisation and expertise: An exploration of knowledge bases and the management of accounting and consulting firms', *Accounting, Organizations and Society*, Vol. 23 No. 5, pp. 609–624.
- Parker, L.D. (2020), 'The COVID-19 office in transition: cost, efficiency and the social responsibility business case', *Accounting, Auditing and Accountability Journal*, Vol. 33 No. 8, pp. 1943–1967.
- Ryan, R.M., and Deci, E.L. (2000), 'Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being', *American Psychologist*, Vol. 55 No. 1, pp. 68–78.
- Tessier, S., and Otley, D. (2012), 'A conceptual development of Simons' Levers of Control framework', *Management Accounting Research*, Vol. 23 No. 3, pp. 171–185.
- van der Kolk, B. (2019), 'Management control packages: A literature review and guidelines for public sector research', *Public Money & Management*, Vol. 39 No. 7, pp. 512–520.
- van der Kolk, B., ter Bogt, H.J., and van Veen-Dirks, P.M.G. (2015), 'Constraining and facilitating management control in times of austerity: Case studies in four municipal departments', *Accounting, Auditing and Accountability Journal*, Vol. 28 No. 6, pp. 934–965.
- van der Kolk, B., van Veen-Dirks, P. M. G., and ter Bogt, H.J. (2019), 'The impact of management control on employee motivation and performance in the public sector', *European Accounting Review*, Vol. 28 No. 5, pp. 901–928.
- van der Stede, W.A. (2011), 'Management accounting research in the wake of the crisis: Some reflections', *European Accounting Review*, Vol. 20, No. 4, pp. 605–623.

This page has been left blank on purpose

3. Second Chapter

How Performance Management Systems Impact Employee Wellbeing and Motivation: A Recognition Theory Perspective

Abstract

In performance-driven work environments, understanding the psychological impacts of Performance Management Systems (PMS) on employees is critical. Drawing on recognition theory (Honneth, 1995; 2010; Dejours, 2007; 2014), this study investigates the relationship between PMS and employees' wellbeing and motivation. We investigate a large consulting firm that recently implemented a more formal and quantitative PMS, analyzing data from 34 interviews, company documents, and performance evaluation algorithms to understand the system's effects on employee wellbeing and motivation. By examining the subjective experiences and recognition needs and preferences of employees within the system, we gained valuable insights into these complex relationships. Our findings indicate that the newly implemented PMS in the case organization had a negative impact on employees' perceptions of recognition, subsequently affecting their wellbeing and motivation. The study makes two main contributions: First, it develops ten propositions grounded in recognition theory, shedding light on the nuanced interplay between PMS and employees' recognition preferences and needs. These propositions emphasize the importance of intangible (e.g., love, esteem, respect) and tangible (e.g., monetary rewards) forms of recognition in shaping employees' responses to PMS, affecting their wellbeing, motivation, and behavior. Second, the research positions recognition theory as a potentially useful framework for analyzing employees' subjective experiences and preferences in response to PMS. This approach enables a comprehensive examination of how PMS design and use employees' perception of recognition, which can, in turn, explain change in motivation and behavior among employees. This research offers a novel perspective on the PMS's effects on individuals' psychological wellbeing and provides valuable insights for organizations in designing PMSs that emphasize intangible and tangible recognition.

3.1. Abstract, Introduction and Conclusions in Spanish Language

Abstracto

En entornos laborales impulsados por el rendimiento, comprender los impactos psicológicos de los Sistemas de Gestión del Rendimiento (PMS, por sus siglas en inglés) en los empleados es fundamental. Basándonos en la teoría del reconocimiento (Honneth, 1995; 2010; Dejours, 2007; 2014), este estudio investiga la relación entre los PMS y el bienestar y la motivación de los empleados. Investigamos una gran consultora que implementó recientemente un PMS más formal y cuantitativo, analizando datos de 34 entrevistas, documentos de la empresa y algoritmos de evaluación del rendimiento para comprender los efectos del sistema en el bienestar y la motivación de los empleados. Al examinar las experiencias subjetivas y las necesidades y preferencias de reconocimiento de los empleados dentro del sistema, obtuvimos valiosos conocimientos sobre estas complejas relaciones. Nuestros hallazgos indican que el PMS recién implementado en la organización estudiada tuvo un impacto negativo en las percepciones de reconocimiento de los empleados, afectando posteriormente su bienestar y motivación. El estudio realiza dos contribuciones principales: en primer lugar, desarrolla diez proposiciones basadas en la teoría del reconocimiento, arrojando luz sobre la interacción matizada entre los PMS y las preferencias y necesidades de reconocimiento de los empleados. Estas proposiciones enfatizan la importancia de las formas de reconocimiento intangibles (por ejemplo, amor, estima, respeto) y tangibles (por ejemplo, recompensas monetarias) en la configuración de las respuestas de los empleados a los PMS, afectando su bienestar, motivación y comportamiento. En segundo lugar, la investigación posiciona la teoría del reconocimiento como un marco potencialmente útil para analizar las experiencias subjetivas y preferencias de los empleados en respuesta a los PMS. Este enfoque permite un examen integral de cómo el diseño y uso de los PMS afecta la percepción de reconocimiento de los empleados, lo que puede, a su vez, explicar variaciones en la motivación y el comportamiento entre los empleados. El estudio añade una perspectiva novedosa a la literatura existente sobre el impacto de los PMS en los estados psicológicos individuales e informa los procesos de toma de decisiones de las organizaciones al diseñar PMS que enfatizan tanto el reconocimiento intangible como el tangible, fomentando el bienestar, la motivación y el compromiso de los empleados.

Introducción

En el entorno laboral orientado al rendimiento de hoy en día, comprender el impacto psicológico de los Sistemas de Gestión del Rendimiento (PMS, por sus siglas en inglés) en los empleados se ha vuelto cada vez más importante. Numerosos estudios empíricos han investigado los efectos de las características de los PMS, como las recompensas tangibles e intangibles, en la motivación y el bienestar (Kunz & Linder, 2012; Presslee et al., 2013). Si bien estos estudios reconocen que una organización puede influir significativamente en la motivación, es esencial reconocer que el proceso a través del cual las personas responden a las herramientas organizativas es inherentemente subjetivo. A pesar de la adopción de múltiples teorías psicológicas que han profundizado nuestra comprensión de las relaciones entre PMS, motivaciones y resultados, los mecanismos intrincados que sustentan estos procesos subjetivos aún requieren una investigación, clarificación y comprensión teórica más enfocadas (Franco-Santos et al., 2022; Hall, 2016; Wibbeke y Lachmann, 2020). Este estudio tiene como objetivo ofrecer una comprensión más profunda de cómo los PMS afectan el bienestar de los empleados y la motivación hacia la organización, proporcionando una contribución teórica a la literatura existente.

Al explorar las relaciones entre los PMS y los estados emocionales individuales y el comportamiento, una corriente emergente de investigación en contabilidad se centra en el impacto del diseño y uso del control de gestión (MC, por sus siglas en inglés) en las experiencias de las personas (Mahlendorf et al., 2014; Repenning et al., 2021; Erickson et al., 2022). Utilizando diversos métodos de investigación, estos estudios revelan conexiones entre MC y aspectos de la vida de los empleados, como la ambigüedad de roles (Hall, 2008), la satisfacción laboral (Lau & Sholihin, 2005), la motivación (Van der Hauwaert et al., 2022), las emociones (Repenning et al., 2021) y los niveles de estrés (Cardinaels & Feichter, 2021; Frimanson et al., 2021; Bedford et al., 2022). Basándonos en la literatura previa que explora el papel de las prácticas contables en la navegación de intereses individuales en competencia (Chenhall et al., 2013) y el debate sobre los efectos no deseados de los PMS (Buckingham y Goodall, 2015; Capelli y Tavis, 2016; Murphy, 2020), nuestro estudio profundiza en las formas en que los empleados reaccionan a un PMS más formal y cuantitativo, investigando su influencia en sus diversas necesidades de reconocimiento de sí mismos y de su trabajo (Beer et al., 2022).

Nuestro estudio tiene como objetivo proporcionar una explicación teórica de cómo un PMS afecta las necesidades de motivación y reconocimiento de los empleados y, en última instancia, su bienestar psicológico. Al examinar las interacciones entre PMS y experiencias individuales, buscamos comprender los mecanismos a través de los cuales diversas dimensiones del bienestar, como respuestas emocionales, satisfacciones de dominio y juicios globales de satisfacción con la vida

(Diener et al., 1999, p. 127), se manifiestan o no como resultado del sistema. Informado por la teoría del reconocimiento (Honneth, 1995; 2010; Dejours, 2007; 2014; Tweedie et al., 2019), nuestro estudio plantea que las personas buscan reconocimiento por sus esfuerzos, habilidades y contribuciones, lo que tiene importantes implicaciones psicológicas para su bienestar, motivación y compromiso. Al aplicar la teoría del reconocimiento al estudio de los PMS, podemos abordar las complejidades de las experiencias subjetivas de los empleados y las prioridades con respecto a las diferentes formas de reconocimiento que el sistema puede o no desencadenar. El reconocimiento adecuado en el lugar de trabajo es esencial para formar conceptos saludables de sí mismo (Beer et al., 2022), mientras que el reconocimiento inadecuado puede perjudicar este proceso. Por lo tanto, nuestra investigación busca mejorar nuestra comprensión de cómo los PMS afectan las necesidades de reconocimiento de los empleados y, posteriormente, su motivación y bienestar psicológico general.

Presentamos y analizamos el caso de una gran empresa consultora que recientemente implementó un PMS más formal y cuantitativo, capturando un momento crucial de cambio en las herramientas de control de la organización. Basándonos en 34 entrevistas con empleados y ex empleados, gerentes y socios, así como en el acceso a diversos documentos y regulaciones de la empresa, contratos, sistemas de bonificaciones y algoritmos de evaluación del desempeño, desentrañamos los efectos del nuevo PMS en el bienestar, la motivación y el comportamiento de los empleados. Nuestro estudio triangula datos mediante la realización de ocho entrevistas con individuos que trabajan en empresas consultoras Big-4 y no Big-4, para validar las percepciones clave de cómo los sistemas de control impactan en la necesidad de reconocimiento y bienestar entre los individuos en empresas comparables. Este caso presenta una oportunidad única para examinar el funcionamiento interno de un PMS dentro de su contexto, explorando las intenciones de los gerentes y las percepciones de los empleados (Tessier & Otley, 2012) para comprender la priorización de diversos aspectos de reconocimiento tanto por parte de los empleados como de la empresa a través del sistema. Al comparar el PMS anterior con el sistema recién introducido, desentrañamos las razones subyacentes del impacto del nuevo sistema en el bienestar de los empleados, especialmente en lo que respecta a las dinámicas de reconocimiento.

Además, teniendo en cuenta el aspecto de construcción social de la contabilidad (Miller y O’Leary, 1987; Hopwood, 1983), este estudio enfatiza la importancia de las experiencias subjetivas moldeadas por las respuestas emocionales al interactuar con un sistema cuantificado que reconoce ciertos aspectos mientras pasa por alto otros. A través del lente de la teoría del reconocimiento, buscamos ofrecer una comprensión más matizada de los mecanismos psicológicos subyacentes en la interacción entre los PMS y la motivación y comportamiento de los empleados, ofreciendo una nueva forma de entender cómo los PMS afectan las percepciones clave de los empleados sobre el

reconocimiento y sus estados psicológicos posteriores. Al hacerlo, discutimos cómo los cambios en las lógicas y mecanismos de los PMS influyen en las percepciones de los individuos sobre las lógicas organizacionales (Fay et al., 2010), mientras también afectan las preferencias individuales para diferentes formas de reconocimiento.

Descubrimos que las percepciones de los empleados sobre un PMS reflejan sus preferencias por elementos específicos de reconocimiento y el grado en que estos aspectos son priorizados por la empresa. Estas necesidades de reconocimiento abarcan un grupo ‘intangible’, como amor, estima, respeto, y un grupo tangible, como recompensas monetarias, todos los cuales se interrelacionan y contribuyen a la percepción general de cuán bien un PMS satisface las expectativas y deseos de los empleados por reconocimiento y aprecio en el lugar de trabajo. En línea con Lukka (2014), nuestro enfoque de investigación interpretativa nos permite descubrir los mecanismos causales que subyacen en estas relaciones de manera dependiente del contexto. Al hacerlo, mostramos que un enfoque teórico del reconocimiento para estudiar este mecanismo fue fundamental para explicar la motivación, el bienestar y el compromiso de los empleados con la empresa. Nuestro análisis de un PMS recién implementado sugiere que no es solo la cuantificación o formalidad del sistema, sino también cómo reconoce o pasa por alto aspectos del trabajo y de los individuos que ellos consideran importantes, lo que puede tener un impacto significativo en el bienestar. Este hallazgo amplía nuestra comprensión de las limitaciones intrínsecas y la simplificación de la realidad (cf. Robson, 1992; Bowker & Star, 2000; Mennicken y Espeland, 2019) inherentes en tales sistemas al demostrar por qué estos sistemas pueden no reconocer las necesidades clave de reconocimiento individual.

Nuestra investigación amplía la literatura existente sobre los efectos psicológicos de los PMS y los sistemas de control (Franco-Santos et al., 2022; Hall, 2016; Wibbeke et al., 2020) al ofrecer dos posibles contribuciones. En primer lugar, a partir de la teoría del reconocimiento (Honneth, 1995; 2010; Dejours, 2007; 2014), proponemos diez proposiciones que pueden explicar cómo los cambios en el reconocimiento pueden influir en las preferencias de reconocimiento de los empleados y en los complejos procesos psicológicos que ocurren al interactuar con los PMS. Nuestras proposiciones subrayan la importancia del reconocimiento en la configuración de las respuestas emocionales de los empleados a los PMS y cómo estas respuestas pueden afectar su bienestar general, motivación y comportamiento en el lugar de trabajo. No solo brindan información sobre aspectos específicos de esta interacción compleja, sino que también exploran cómo los PMS interactúan con consideraciones sobre sí mismos intrincadas, involucrando varias y, a menudo, lógicas de reconocimiento en competencia. En el contexto del cambio en los reconocimientos, nuestra investigación investiga dos caminos teóricos interconectados. En primer lugar, profundizamos en las posibles limitaciones de los PMS formales y cuantitativamente fundamentados al limitar o reducir el reconocimiento intangible

mientras se centra principalmente en el reconocimiento tangible. Al hacerlo, examinamos los posibles efectos de este cambio en las preferencias y necesidades de reconocimiento de los empleados, así como en su motivación y compromiso con la empresa. Nuestro trabajo sobre el reconocimiento busca mejorar la comprensión de las dinámicas que impulsan la motivación al examinar cómo el PMS revela la interconexión entre el reconocimiento intangible, incluido el amor, la estima y el respeto, y el reconocimiento tangible, como las recompensas tangibles. Esta exploración permite una comprensión más matizada de cómo estos aspectos del reconocimiento pueden contribuir a la motivación y el bienestar general de los empleados.

En segundo lugar, basándonos en la literatura anterior que explora el impacto de las herramientas contables en las experiencias individuales (Mahlendorf et al., 2014; Reppenning et al., 2021; Erickson et al., 2022) y el papel de las prácticas contables en la navegación de intereses en competencia (Chenhall et al., 2013), proponemos la teoría del reconocimiento como una lente potencialmente valiosa para comprender mejor las experiencias y preferencias subjetivas de los empleados en respuesta a los PMS. Sostenemos que las percepciones individuales de un PMS podrían verse afectadas por la forma en que el sistema enfatiza las necesidades de nivel de reconocimiento, lo que podría explicar la motivación y el comportamiento. Al hacerlo, sugerimos que la motivación de un individuo está influenciada por cómo el PMS resalta y prioriza tanto las formas intangibles como tangibles de reconocimiento. Al enfatizar la importancia del reconocimiento en la configuración de las experiencias, la motivación y el compromiso de los empleados con la empresa, nuestra investigación contribuye a la comprensión de cómo el diseño y uso de los PMS pueden afectar los estados psicológicos de los individuos (Hall, 2008, 2016; Marginson et al., 2014) y ofrece información que podría informar la toma de decisiones, teniendo en cuenta las diversas formas en que los empleados perciben e interactúan con estos sistemas a través de un enfoque teórico del reconocimiento. En consecuencia, nuestros hallazgos pueden guiar a las organizaciones en el diseño de PMS que aborden de manera efectiva tanto el reconocimiento intangible como el tangible, fomentando el bienestar, la motivación y el compromiso de los empleados.

En resumen, esta investigación contribuye a la comprensión de cómo el diseño y uso de los PMS impactan los estados psicológicos individuales (Hall, 2008, 2016; Marginson et al., 2014) y enfatiza la importancia del reconocimiento en la configuración de las experiencias y preferencias de los empleados.

Conclusiones

El propósito de esta investigación fue investigar cómo funciona el PMS en el (mal)reconocimiento del valor y las contribuciones de los empleados y cómo esto afecta su bienestar y comportamiento. Nuestros hallazgos revelaron que los reconocimientos intangibles y tangibles no son mutuamente excluyentes, sino que se complementan y refuerzan entre sí, siendo su priorización diferente entre la empresa y sus empleados. Si tanto los empleados como la empresa priorizan el mismo grupo de reconocimientos, es más probable que los empleados expresen un bienestar y motivación positivos en el lugar de trabajo. Los hallazgos también destacan las implicaciones prácticas para las organizaciones que hacen un uso extensivo del PMS, enfatizando la importancia de abordar tanto los aspectos intangibles como tangibles del reconocimiento para evitar consecuencias negativas para los empleados y la organización.

En lugar de sugerir que el PMS debe ser "abandonado" debido a reacciones negativas, como algunos académicos de otras disciplinas han argumentado (por ejemplo, Murphy, 2020), nuestra investigación implica que es la forma en que las características del PMS enfatizan aspectos clave del reconocimiento que deberían ser examinados de cerca. Los desequilibrios entre los dos tipos de reconocimiento identificados en las percepciones de los empleados, exacerbados por sus desalineaciones, podrían explicar por qué las intenciones gerenciales y las percepciones de los empleados de los mismos controles pueden diferir (Tessier & Otley, 2012). Esta perspectiva destaca la importancia de comprender las posibles desalineaciones entre los objetivos de la gerencia y las percepciones de los empleados al diseñar e implementar un PMS, asegurando que el sistema fomente de manera efectiva las dinámicas de reconocimiento deseadas.

Nuestros hallazgos deben considerarse dentro del contexto de las limitaciones de nuestro método de investigación. En primer lugar, nuestro estudio se llevó a cabo durante el surgimiento de la pandemia de COVID-19. Si bien estas condiciones de trabajo pueden haber amplificado ciertos sentimientos (negativos) que documentamos, los empleados tenían la opción de trabajar desde casa o en la oficina durante nuestras entrevistas. En segundo lugar, nuestras evidencias cualitativas proporcionaron una visión más profunda de las motivaciones y emociones de los entrevistados, pero limitaron nuestra capacidad para hacer afirmaciones definitivas y generalizables sobre la causalidad. Aunque el enfoque del estudio de casos limita la generalización, ofrece información valiosa y en profundidad sobre las experiencias subjetivas de los participantes con el PMS antiguo y el nuevo (ver Lukka, 2014). De manera más amplia, es importante reconocer que las narraciones de los sujetos solo pueden ofrecer percepciones parciales de los factores que dan forma a sus autointerpretaciones. Por último, el sesgo de recuerdo puede presentar otra limitación de nuestro estudio, ya que confiamos en los recuerdos de los participantes del PMS anterior. Sin embargo, minimizamos el riesgo de datos

sesgados al contrastar puntos de vista clave entre empleados con antigüedades similares. Además, tuvimos acceso tanto al PMS inicial como al nuevo, lo que nos permitió corroborar perspectivas esenciales sobre la funcionalidad del PMS en el pasado.

Las investigaciones futuras pueden explorar o probar las relaciones que proponemos aquí, por ejemplo, analizando cómo los diversos tipos (por ejemplo, formales vs informales) y usos impactan en la percepción de los individuos sobre el reconocimiento y cómo esto se traduce en creencias y comportamientos específicos. Incluir análisis más detallados de los microprocesos psicológicos a nivel individual que subyacen a esos efectos tiene el potencial de mejorar nuestra comprensión de cómo surgen tales efectos (cf. Hall, 2016). Esperamos que nuestro estudio permita investigaciones futuras en este sentido.

3.2. Introduction

In today's performance-driven work environment, understanding the psychological impact of Performance Management Systems (PMS) on employees has become increasingly important. Numerous empirical studies have investigated the effects of PMS characteristics, such as tangible and intangible rewards, on motivation and wellbeing (Kunz & Linder, 2012; Presslee et al., 2013). While these studies acknowledge that an organization can significantly influence motivation, it is essential to recognize that the process through which individuals respond to organizational tools is inherently subjective. Despite the adoption of multiple psychological theories that have deepened our understanding of the relationships between PMS, motivations, and outcomes, the intricate mechanisms underpinning these subjective processes still require more focused investigation, clarification, and theoretical understanding (Franco-Santos, et al., 2022; Hall, 2016; Wibbeke and Lachmann, 2020). This study aims to offer a deeper comprehension of how PMS affects employee wellbeing and motivation to the organization, providing a theoretical contribution to the existing literature.

Exploring the relationships between PMS and individual emotional states and behavior, an emerging stream of accounting research focuses on the impact of management control (MC) design and use on individuals' experiences (Mahlendorf, et al., 2014; Repenning et al., 2021; Erickson, et al., 2022). Using various research methods, these studies reveal connections between MC and aspects of employees' lives, such as role ambiguity (Hall, 2008), job satisfaction (Lau & Sholihin, 2005), motivation (Van der Hauwaert et al., 2022), emotions (Repenning et al., 2021), and stress levels (Cardinaels & Feichter, 2021; Frimanson et al., 2021; Bedford et al., 2022). Building on prior literature that explores the role of accounting practices in navigating individual competing interests (Chenhall et al., 2013) and the debate on the undesired effects of PMS (Buckingham and Goodall, 2015; Capelli and Tavis, 2016; Murphy, 2020), our study delves into the ways employees react to a more formal and quantitative PMS, investigating its influence on their diverse needs for recognition of themselves and their work (Beer, et al., 2022).

Our study aims to provide a theoretical explanation for how a PMS impacts employee motivation and recognition needs, and ultimately their psychological wellbeing. By examining the interactions between PMS and individual experiences, we seek to understand the mechanisms through which various dimensions of wellbeing, such as emotional responses, domain satisfactions, and global judgments of life satisfaction (Diener et al., 1999, p. 127), manifest or fail to manifest as a result of the system. Informed by recognition theory (Honneth, 1995; 2010; Dejours, 2007; 2014; Tweedie et al., 2019), our study posits that individuals seek acknowledgement for their efforts, skills, and contributions, which has significant psychological implications for their wellbeing, motivation, and commitment. By applying recognition theory to the study of PMS, we can address the intricacies of employees' subjective experiences and priorities regarding different forms of recognition that the system may or may not trigger. Adequate recognition in the workplace is essential for forming healthy self-concepts (Beer, et al., 2022), while inadequate recognition may impair this process. Therefore, our research seeks to enhance our understanding of how PMS impact employee recognition needs and, subsequently, their motivation and overall psychological wellbeing.

We present and unpack the case of a large consulting firm that recently implemented a more formal and quantitative PMS, capturing a pivotal moment of change in the organization's control tools. Drawing on 34 interviews with former and current employees, managers, and partners, as well as access to a variety of company documents and regulations, contracts, bonus systems, and performance evaluation algorithms, we unravel the effects of the new PMS on employee wellbeing, motivation and behavior. Our study triangulates data by conducting eight interviews with individuals working in both Big-4 and non-Big-4 consulting firms, to validate key perceptions of how control systems impact the need for recognition and wellbeing among individuals in comparable peer firms. This case presents a distinctive opportunity to examine the inner workings of a PMS within its context, exploring managerial intentions and employee perceptions (Tessier & Otley, 2012) to understand the prioritization of various recognition-aspects by both employees and the firm through the system. By comparing the previous PMS with the newly introduced system, we unravel the

underlying reasons for the new system's impact on employee wellbeing, particularly with regard to recognition dynamics.

Moreover, considering the social construction aspect of accounting (Miller and O'Leary, 1987; Hopwood, 1983), this study emphasizes the significance of subjective experiences shaped by emotional responses to interacting with a quantified system that recognizes certain aspects while overlooking others. Through the lens of recognition theory, we aim to provide a more nuanced understanding of the psychological mechanisms underlying the interplay between PMSs and employee motivation and behavior, offering a novel way to understand how PMS affect employees' key perceptions of recognition and their subsequent psychological states. In doing so, we discuss how changes in PMS logics and mechanisms influence individuals' perceptions of organizational logics (Faÿ et al., 2010), while affecting also individuals' preferences for different forms of recognition.

We find that employees' perceptions of a PMS reflect their preferences for specific elements of recognition and the extent to which these aspects are prioritized by the firm. These recognition needs encompass an 'intangible' cluster, such as love, esteem, respect, and a tangible cluster, such as monetary rewards, all of which interrelate and contribute to the overall perception of how well a PMS meets employees' expectations and desires for acknowledgment and appreciation in the workplace. In line with Lukka (2014), our interpretative research approach allows us to uncover the causal mechanisms that underlie these relationships in a context-dependent manner. In doing so, we show that a recognition-theoretic approach to study this mechanism was instrumental to explain employee motivation, well-being, and commitment to the firm. Our analysis of a newly implemented PMS suggests that it is not just the quantification or formality of the system, but also how it recognizes or overlooks aspects of individuals' work and themselves that they deem important, which can have a significant impact on wellbeing. This finding expands our understanding of the intrinsic limitations and simplification of reality (cf. Robson, 1992; Bowker & Star, 2000; Mennicken and Espeland, 2019) inherent in such systems by demonstrating why these systems may fail to recognize key individual recognition needs.

Our research extends the existing literature on the psychological effects of PMS and control systems (Franco-Santos et al., 2022; Hall, 2016; Wibbeke et al., 2020) by offering two potential contributions. First, drawing from recognition theory (Honneth, 1995; 2010; Dejours, 2007; 2014), we propose ten propositions that may explain how shifts in recognition can influence employees' recognition preferences and the complex psychological processes that occur when interacting with PMS. Our propositions underline the importance of recognition in shaping employees' emotional responses to PMS and how these responses might affect their overall wellbeing, motivation, and workplace behavior. They not only provide insights into specific aspects of this complex interplay but also explore how PMS interacts with intricate self-considerations, involving various and often competing recognition logics. In the context of the shift in recognitions, our research investigates two interconnected theoretical paths. First, we delve into the possible limitations of formal, quantitatively-grounded PMS in limiting or reducing intangible recognition while predominantly focusing on tangible recognition. In doing so, we examine the potential effects of this shift on employees' recognition preferences and needs, as well as their motivation and commitment to the firm. Our work on recognition seeks to enhance comprehension of the dynamics that fuel motivation by scrutinizing how the PMS reveals the interconnection between intangible recognition, including love, esteem, and respect, and tangible recognition, such as tangible rewards. This exploration allows for a more nuanced understanding of how these aspects of recognition may contribute to employees' motivation and overall wellbeing.

Second, building on prior literature that explores the impact of accounting tools on individuals' experiences (Mahlendorf et al., 2014; Repenning et al., 2021; Erickson et al., 2022) and the role of accounting practices in navigating competing interests (Chenhall et al., 2013), we propose recognition theory as a potentially valuable lens to better understand employees' subjective experiences and preferences in response to PMSs. We argue that individuals' perceptions of a PMS might be impacted by the way the system emphasizes recognition-level needs, which could explain motivation and behavior. In doing so, we suggest that an individual's motivation is influenced by

how the PMS highlights and prioritizes both intangible and tangible forms of recognition. By emphasizing the importance of recognition in shaping employees' experiences, motivation, and commitment to the firm, our research contributes to the understanding of how PMS design and use might impact individuals' psychological states (Hall, 2008, 2016; Marginson et al., 2014) and offers insights that could inform decision-making, considering the diverse ways employees perceive and interact with these systems through a recognition-theoretic approach. Consequently, our findings can guide organizations in designing PMS that effectively address both intangible and tangible recognition, fostering employee wellbeing, motivation, and commitment.

In summary, this research contributes to the understanding of how PMS design and use impact individuals' psychological states (Hall, 2008, 2016; Marginson et al., 2014) and emphasizes the importance of recognition in shaping employees' experiences and preferences. The paper is organized as follows: first, we argue that the recognition theoretic approach has the potential to extend underdeveloped areas of research into both MC and PMS formation literatures. Next, we discuss our research methods and present the findings from our field work. Finally, in the discussion and conclusions section, we present our ten propositions, reiterate our findings and situate our main contributions in the literature.

3.3. Literature

Performance Management Systems and their effects on individuals' psychological states

Management control (MC) consists of systems, rules, practices, values, and activities implemented by management to direct employee behavior and achieve organizational goals (Merchant and van der Stede, 2007). Performance Management Systems (PMSs) combine multiple MC elements (Simons, 1995; Malmi & Brown, 2008; Guenther & Heinicke, 2019) to set targets, evaluate performance, and provide rewards, contributing to a firm's 'results-oriented' culture (Kraus et al., 2017; Verbeeten & Speklé, 2015). PMSs, including financial and nonfinancial measures, aim

at operationalizing strategic goals and diagnosing and remediating problems (Franco-Santos et al., 2012; Endrikat et al., 2020).

While traditional studies mainly focus on PMS' influence on organizational performance (Koufteros et al., 2014; Chenhall, 2003; Franco-Santos et al., 2012), there is an increasing call for research exploring psychological processes and their connections with management accounting practices (Birnberg et al., 2007; Hall, 2016). This focus on the individual is driven by the growing recognition that individual-level reactions to control tools can significantly impact organizational performance (Burney & Widener, 2007; Groen et al., 2017). As a result, studying psychological effects of control tools facilitates the understanding of the diverse emotional and behavioral reactions individuals have towards control systems (Hall, 2016; Wibbeke & Lachmann, 2020). Various studies have examined the effects of intrinsic and extrinsic rewards on individual motivation (Kominis & Emmanuel, 2007; Van der Hauwaert et al., 2022). However, the literature presents mixed evidence regarding the interplay between intrinsic and extrinsic rewards. While some scholars argue that these rewards can complement each other, others contend that their interaction might be more complex (see Kunz & Linder, 2012). One potential reason for these conflicting findings is the subjective nature of motivation, which could lead to different outcomes depending on the individual and the organizational context (Chenhall, 2003).

Various PMS characteristics have been shown to affect individual psychological states and behavior in diverse ways. Examples of such characteristics include performance evaluation criteria (Jordan and Messner, 2012; Frimanson et al., 2021), forced rating systems (Cardinaels & Feichter, 2021), subjective versus objective evaluations (Dai et al., 2018), and reward systems (Kunz & Linder, 2012; Presslee et al., 2013). Some studies have found positive effects of certain PMS characteristics, such as Hall (2008), who found that well-defined performance measures can reduce role ambiguity and increase employees' intrinsic motivation. Similarly, Burney & Widener (2007) showed that appropriately linking PMS to reward systems can influence an individual's perception of fairness, particularly regarding the accuracy of the PMS in identifying individual performance. However, other

studies have revealed negative consequences of PMS characteristics. PMS can negatively affect work-related attitudes (Pop-Vasileva et al., 2011) and even induce cognitive dissonance and stress among employees (Van der Kolk and Kaufmann, 2018). More recently, Bedford et al. (2022) demonstrated that the tightening of management control elements due to the Covid-19 situation had severe implications on individuals' emotional sphere, leading to high levels of stress and exhaustion. These findings suggest that management control practices have the potential to impact employees' psychological states, satisfaction, emotions, and responses, all of which can be collectively referred to as factors associated with wellbeing (Diener et al., 1999, p. 127; Reppenning et al., 2021; Erickson, et al., 2022).

Understanding how PMS are used within organizations and their effects on individuals is a complex task. Subjective assessments of organizational support (Mahlendorf et al., 2014) and organizational values conveyed by PMS (Chenhall et al., 2013) are important determinants that may explain the positive or negative effects of PMS. However, comprehending how individuals subjectively process these characteristics and how they relate to motivation and commitment remains a challenge. This complexity is further amplified by the controversies surrounding the effects of PMS. Some practitioners and researchers argue that PMS may produce more harm than beneficial outcomes (Buckingham & Goodall, 2015; Capelli & Tavis, 2016; Murphy, 2020), while others in accounting maintain that they can indeed yield positive psychological effects (Marginson et al., 2014). Consequently, examining the interplay between PMS characteristics, their use, and the resulting effects on individuals requires a nuanced and multifaceted approach.

One area where the complexity of PMS effects is particularly evident is the performance evaluation mechanism and the way extrinsic rewards are connected to these assessments. For example, Buckingham and Goodall (2015) argue that evaluations should measure individual performance, but most captured information reflects evaluator tendencies, revealing little about individual performance. This issue is further exacerbated by decisions related to performance indicators, scoring methods, and the discrimination between 'top' and 'bottom' performers, which

can lead to debates and disagreements among individuals and groups who hold different principles and perspectives on evaluation (Chenhall, et al., 2013). Additionally, forced rating systems have been criticized for potentially leading to undesired effects at both individual and organizational levels (Cardinaels & Feichter, 2021). Given the potential impact of these PMS characteristics on how individuals perceive themselves in the workplace, exploring alternative frameworks can provide valuable insights into these subjective processes.

Recent studies emphasize the importance of meaningful work in understanding PMS functioning and its effects on employees (Beer et al., 2022; Kubiak, 2022; Rosso et al., 2010). These studies suggest that when employees perceive their work as meaningful, they are more likely to be engaged, motivated, and committed to their organization, which can ultimately enhance the effectiveness of PMS. For instance, Beer et al. (2022: 1943) posit that overlooking employee contributions in the workplace ‘creates an existential challenge to work worthiness, as employees have feelings of uncertainty about the contributions and impact they have through their work.’ By investigating the psychological processes underlying these relationships and incorporating recognition theory, we can shed novel light on how PMS work and advance the debate on the conditions under which PMS generate positive versus undesired effects. This approach can provide a deeper understanding of how and when extrinsic and intrinsic rewards positively impact employees’ self-conceptions, motivation, commitment, and overall wellbeing.

The gaps identified in the literature emphasize the need of better gauging the subjective processes that drive individuals’ responses to PMS and the ‘subjective conditions’ under which PMS can lead to positive or negative outcomes. The next section will delve into recognition theory, further deepening our understanding of the role it might play in the context of PMS and how this relates to the broader discussion of healthy and supportive work environments and recognition of employees’ contributions.

Recognition theory

Recognition theory,⁵ developed by Axel Honneth (1995; 2010) and Christophe Dejours (2007; 2014), provides a novel lens through which to examine individual experiences within organizations, particularly in relation to the role of PMS. As researchers increasingly recognize the value of incorporating psychological perspectives into management accounting and control studies (Birnberg, et al., 2006; Hall, 2016; Wibbecke & Lachmann, 2020), recognition theory offers an alternative approach to understanding the emotional, cognitive, and physical dimensions of individuals' experiences with PMS. Drawing on recognition theory, we can explore how PMS shape individual experiences through a dynamic and fluid process of acknowledgement and validation (Rosso et al., 2010). These experiences are continually constructed as PMS provide situational contexts that stimulate this process (Jordan & Messner, 2012). In line with Boedker and Chua's (2013: 263) assertion that 'accounting has the capacity to entice actors into imagining and then constructing a wider range of possible futures to which people wholeheartedly commit – emotively, cognitively and physically,' recognition theory enables researchers to delve deeper into the factors and dynamics that contribute to the ongoing construction of individual experiences. This perspective sheds light on the often underexplored role of acknowledgement in shaping employees' sense of meaning, worth, and commitment within organizations.

Honneth (1995, p. 138) contends that 'one's own person is constitutively dependent on the recognition of others.' This theory suggests that individuals require various forms of acknowledgement, both tangible and intangible, for their value and contributions to maintain a sense of autonomy and self-worth. Consequently, the need for different types of recognition shapes the development of personal experiences. Honneth (1995) identifies three recognition-level elements that serve a structuring function: love, rights, and esteem, which may correspond to both intangible and tangible recognition clusters. Each type of recognition primarily, but not exclusively, originates from a distinct social sphere: love from intimate relationships (e.g., family), rights from civil society, and

⁵ Given the different accents in the works by Axel Honneth and Christophe Dejours, we could also write about the plural theories, yet, for the purpose of this paper, which draws on the synthesised form of these theories in later work such as Tweedie et al. (2019), we will use the singular theory here.

esteem from the work sphere. Honneth argues that while rights recognize individuals' equality with others, esteem involves being acknowledged by society for the unique or specific value of one's social contribution.

Recognition theory potentially offers a comprehensive understanding of how PMS can directly affect personal experiences within organizations. This perspective highlights the role of management control practices in providing social acknowledgement and also offers criteria to distinguish genuine forms of recognition from superficial or tokenistic forms (Honneth, 2007). By doing so, recognition theory lays the groundwork for a detailed analysis of how different types of acknowledgements can either support or hinder the development of healthy individual experiences.

Dejours' (2014, p. 124) analysis of esteem as a 'qualitative judgement related to the work done' differs from Honneth's interpretation of esteem as a generic social judgement of one's value. Where social esteem is most evident in generic markers of career achievement like wages and job titles, Dejours foregrounds recognition only fully accessible to workplace participants. He distinguishes *judgements as to usefulness*, often by one's superiors, which assess how workers contribute to organisational goals, and *judgements as to beauty*, often by one's peers, which assess workers according to standards of professional competence or excellence (Dejours, 2014, p. 124).⁶ Tweedie et al. (2019, p. 10) highlight that for Dejours (2007, 2012) it is particularly this recognition from peers and superiors that may make their jobs bearable, as it has the potential to transform 'initial experience of stress and 'suffering' at work into self-development, while 'misrecognition' inhibits this capacity.' Conversely, a poorly-designed PMS that does not reflect a person's value and contributions, *denies* recognition and hurts employee wellbeing, or, more specifically, their self-esteem and self-relations.

⁶ To illustrate this, a football player's performance may be judged by a coach based on her contribution to the team work or to the final score (judgements as to usefulness), while the player may receive judgements (compliments, feedback) from other players (peers) who have similar positions as her – and understand better the 'beauty' and difficulty of certain actions that may or may not have been 'successful' in terms of their usefulness (judgements as to beauty). Although this example already makes clear that it would be too strong to assume that one type of judgement is always done by either a superior or a peer, it illustrates that different judgements are possible and may trigger different receptions and responses.

Recognition's importance in the workplace is emphasized in recent literature, highlighting meaningful work's role in PMS functioning (Beer et al., 2022; Kubiak, 2022; Rosso et al., 2010). Studies show that employees perceiving their work as meaningful exhibit increased engagement, motivation, and commitment, enhancing PMS effectiveness. Beer et al. (2022) argue that unacknowledged contributions may create existential challenges for employees. Thus, organizations valuing employees' contributions can foster supportive environments and improve PMS outcomes. Integrating recognition theory can aid in the understanding of workplace acknowledgement dynamics through controls and their impact on employee experiences, wellbeing, and motivation.

In summary, both the wellbeing of workers affected by management control elements and the internal structures of personal experiences are underexplored in the relevant literature. Recognition theory, drawing on the work of Honneth and Dejours, can help address these issues by arguing that the impact of PMS on workers is governed in part by its capacity to address core aspects of self-identity necessary for forming healthy self-relations. In doing so, recognition theory provides a valuable framework for further investigation and understanding of these dynamics within organizational settings. In the following section, we motivate our research method choices, after which we will present our findings.

3.4. Research method

Method and case selection

We conducted an in-depth case study to better understand the relationship between an organisation's PMS and employee wellbeing. Qualitative research is well-suited for acquiring a richer understanding of complex mechanisms and internal narratives (Flick, 2019). In particular, interviews offer insights into the interpretive processes and self-relations from which, according to recognition theory, the impact of PMSs on wellbeing primarily stems. Accessing these internal dynamics and narratives is especially significant in the consulting industry, where the quality of the service provided is also uniquely a subjective and/or interpretive phenomenon.

The empirical context is a large consulting firm, SmartCon, in Italy. We chose SmartCon for two main reasons. First, as a professional service firm (PSF), it relies heavily on employees' knowledge creation and delivery (Scott, 1998), placing people at the core of PSFs (Bloomfield & Danieli, 1995; Glückler & Armbrüster, 2003). Management controls are crucial for hiring, training, and retaining employees (Alvesson & Kärreman, 2004; Merchant & Van der Stede, 2007). Existing research indicates that consultants' work is hard to quantify, and PMSs shape their perceptions of working environment and overall wellbeing (Alvesson & Kärreman, 2004; Kronberger, et al., 2011; Delfino & Van der Kolk, 2021). Consulting work, unlike auditing, operates in a self-regulated industry, emphasizing creativity and subjectivity as critical success factors.⁷ This contrasts with more regulated industries like audit firms.⁸ Second, SmartCon's recent PMS adoption provided a valuable research opportunity as participants had ample experience with the new system, while still remembering how the previous PMS operated. Speaking with senior employees with 10-15 years of tenure allowed us to access rich emic data, which, despite potential recall bias, helped us understand how the new PMS operated in the past, and how it operates today.⁹

Interviews and data analysis

To examine the empirical setting and validate whether it would be suitable for the object of our study, we conducted exploratory interviews with a senior consultant, an HR manager, and a senior manager (average duration: 72 minutes). Besides verbal information about SmartCon's internal organization, we obtained access to policy documents, guidelines for new employees, standard contracts for new hires, and documents that explain the mechanisms of the new and old PMSs. The

⁷ That is not to say, of course, that there are no repetitive tasks at PSFs. There may be some repetition in preparing documents, designing presentations, and using financial tools and spreadsheets needed to 'produce' the advice. Yet, the main process is non-repetitive as each client, problem and question is different.

⁸ Audit firms received considerably more attention in the accounting literature than consulting firms. Both are professional service firms in which highly-educated employees often work in teams to deliver services to other firms. What distinguishes consulting firms from audit firms, however, is that the relationship between 'audit quality' and auditors' performance is different from the relationship between 'consulting quality' and consultants' performance (see Humphrey, 2008). Judgements of the quality of auditors' work are strongly related to the rules and norms established by auditing regulation, while for consulting work such judgements are far less 'objective' or standardized.

⁹ We ultimately minimized the risk of biased data by corroborating key viewpoints among employees with similar tenure. Moreover, we had access to both the first PMS and the new one, thus allowing us to corroborate key perspectives on how the PMS functioned in the past.

early collection of these documents allowed a good initial understanding of the case organization before we would ‘enter the field’ (Eisenhardt, 1989, p. 538).

To narrow the scope of the study and set up a first bridge between empirical data and theory (Klag & Langley, 2013), we prepared a first semi-structured interview protocol aimed at answering the question: ‘How is management control used in this organization?’ This approach allowed the social context to drive the research question rather than letting a ‘preformulated theory’ guide our questions and research strategy (Covaleski and Dirsmith, 1990).

For the sampling strategy, we collaborated with the HR team at SmartCon to identify potential interviewees. The HR team provided us with a list of employees along with their tenure, which greatly facilitated the selection process.¹⁰ We specifically focused on employees with more than one year of tenure to ensure that they had experienced at least one formal performance review under the new PMS, which was first implemented at the end of 2019 and used in 2020.¹¹ By selecting participants based on their tenure and experience with the new PMS, we aimed to gather rich and relevant insights into the impact of the system on employees’ perceptions of recognition and wellbeing.¹² Additionally, we employed various triangulation techniques, such as contacting eight employees from competitor firms, to gain insight into the operation of PMS within the consulting industry. This approach allowed us to compare and analyze key perspectives from workers in other consulting firms and validate or be aware of possibly ‘biased’ perspectives shared by SmartCon’s employees.

To ensure diversity in perspectives and a comprehensive understanding of the phenomenon, we targeted interviewees at different hierarchical levels and across various functional areas within the organization. This purposive sampling approach allowed us to capture a range of experiences and opinions on the new PMS and its effects on employee wellbeing. Notably, some employees played

¹⁰ We concentrate on employees in Italy, as those working in offices located in other countries undergo a distinct performance review process that accounts for geographical location and other contingencies. These factors make it challenging to analyze the experiences of employees working in the headquarters alongside those working in different countries.

¹¹ It is important to acknowledge that the Covid-19 pandemic and the subsequent shift to remote work have likely affected employees’ perceptions of SmartCon, particularly in terms of relatedness (see Delfino and van der Kolk, 2021). Nevertheless, we think that the Covid-19 situation does not significantly undermine the ‘validity’ or ‘reliability’ of our findings. First, employees were given the option to work from the physical office on a voluntary basis, thus retaining a sense of choice and autonomy. Second, the formal performance management system evaluations took place in person rather than virtually, ensuring that our findings are based on employees’ direct experiences and exposure to the system.

¹² Appendix VI provides a timeline of the changes in the PMS.

an active role in facilitating one of the authors' access to the partners and founders of SmartCon, providing the research team with the unique opportunity to gauge perspectives both from the 'top' and the 'bottom' of the organizational ladder. Although our research question primarily focuses on the latter perceptions, understanding the rationale behind the design and implementation of the new PMS from the top-level decision-makers allowed us to gain a richer and more nuanced comprehension of the contextual factors in which the new PMS operated (Tessier & Otley, 2012).

Our initial interviews revealed that SmartCon's PMS was associated with problems that surfaced at both the individual and organisational level. For example, the firm recently experienced high turnover, and employees had little understanding of why the firm recently changed its PMS. At least three themes surfaced: (1) Some employees perceived extrinsic rewards, like bonuses, to be disconnected from the performance evaluations; (2) SmartCon's new performance measures were perceived as unrelated to the 'actual' performance; and, (3) High turnover rates suggested that especially young employees were unhappy about how things went in SmartCon, and frequently left to work for competitors.

The decision to use recognition theory into our study emerged from the initial exploratory interviews. Interestingly, our interviewees often and spontaneously used the Italian word '*riconoscere*' (i.e., recognition) when discussing their perceptions of how SmartCon's PMS was able (or not) to recognize their efforts. This recurring theme led us to explore recognition theory more deeply and examine its potential in explaining the observed phenomena and the impact of the PMS on employees' well-being and experiences. We then revised the interview protocol to further explore these themes, while also incorporating notions from recognition theory, such as judgement, feelings of autonomy and relatedness, self-esteem, and acknowledgement, to help explain nascent themes. Following an abductive approach (Lukka, 2014; Lukka & Modell, 2010), we went back and forth between theory and empirical findings, attempting to better situate our case and understand why employees would negatively react to the system. Over a six-month period, we conducted interviews with the firm's consultants and managers at various levels of seniority, three partners, the HR

manager, and the two founders of the firm, one of whom serves as CEO. This timeframe allowed the authors sufficient time between interviews to reflect on the tensions and how recognition played a role in explaining these tensions. To complement these insider perspectives, we contacted two former employees of SmartCon who had recently left the firm. Theoretical saturation was reached when the perspectives shared with the authors did not add any new significant insights that were not already shared previously. One or two authors conducted all interviews, in either Italian or English, with 34 interviews in total. Appendix I lists all interviewees by their position.¹³

All interviews were recorded, and field notes were written. Transcripts included a transcription header with descriptive information about each interviewee (e.g., age and tenure within the firm). The interviews were listened to multiple times, and all relevant information (i.e., information about the PMS, its reception, and the related effects) were transcribed based on the study's core research questions and themes. Subsequently, we clustered and analysed the data using pattern matching (Crang, 1997). We organised the data around three nodes: (1) the firm and its old PMS, (2) the new PMS, (3) impacts on employee wellbeing and behaviour. We structured our findings section following these three nodes.

3.5. Field study

SmartCon is a multinational consulting firm headquartered in Italy, founded between 2005 and 2010. The firm has grown rapidly and currently employs over 100 workers. With its two founders still in charge in 2022, SmartCon is a large player in the domestic consulting industry.¹⁴ Initially focused on the banking, insurance, and asset management sectors, SmartCon has expanded into other industries and opened branches in Europe and Asia with the intention of becoming a global player in the

¹³ While crafting this article, one author remained in the field as the research collaboration became longitudinal. Initially, we agreed to provide a PowerPoint summarizing the findings, which would inform changes to the firm's management control system. To maintain data integrity and minimize potential bias from researchers' involvement in decision-making, we focused on interview data collected pre-intervention. This approach ensures an unbiased account of the PMS and its impact on employee wellbeing, uninfluenced by researchers' ongoing presence or initiated changes.

¹⁴ In 2020 there were approximately 24,000 Italian firms operating in the consulting sector. Of these, only 35 firms have reported to have more than 50 employees. These firms make 56% of the sector's aggregated €4.8 billions revenues (Rapporto Assoconsult, 2020).

consulting market. This study concentrates on the consulting division, which employs approximately 80% of SmartCon's workforce (see Appendix II) and is supported by other divisions.

The consultants typically work in teams, with at least two partners managing each team to foster mutual improvement. While employees appreciate their autonomy and better work-life balance compared to competitors, the pressure to perform well and deliver results within the established time-frame remains high.

The Old PMS: Emphasis on Intangible Recognition

Through the evidence we discuss in this first section, we identify the intangible cluster, its elements, and its significance in the past organizational culture and practices at the firm. It is important to note that the tangible cluster, which includes elements such as fixed salary, bonuses, and career advancements, is limited in this section. This is because, during our discussions on how the PMS functioned in the past, none of the interviewees mentioned these 'tangible' aspects of work life as playing a significant role in their choice of joining SmartCon or remaining in the firm. This highlights the prominence of intangible recognition aspects within the historical context of SmartCon, which we will explore in this first section.

The participants' reflections on the past and their experiences with control systems used by SmartCon placed the greatest emphasis on the love component of recognition prior to the formal implementation of PMS in late 2020. Esteem and respect were also important dimensions, but love appeared to be the most highlighted aspect. Esteem was reflected in the value placed on employees' unique contributions, while respect was demonstrated by acknowledging the inherent worth of individuals regardless of their hierarchical position. Love was manifested through the familial atmosphere and the recognition of employees' needs and interests beyond their professional identities.

A Senior Consultant with more than five years of tenure in the firm explained:

'With respect to other [peer] firms, SmartCon enables two things. First, a good work/life balance, especially if I compare myself with others working for other consulting firms.

Second, since I was hired, I have been working closely with the top management. I get the chance to talk directly with the CEO and partners without any filters.’ (Senior Consultant_1)

The following quote supports the claim that the intangible cluster of recognition, particularly the love component, held significant value for participants. Moreover, the interplay of love, esteem, and respect factors in the recognition cluster strongly influenced their decision-making. Individuals who prioritized a nurturing work environment and a healthy work/life balance were drawn to SmartCon, even if it meant accepting a lower salary:

‘I was working at a Big-4. Luckily, I decided to change to SmartCon. I did not like [working in a Big-4] because you were simply seen as a number. Moreover, working there forces you to work a lot of hours, regardless of the volume of activity. I changed to SmartCon knowing that I would be paid approximately € 10,000 less a year.’ (Manager_3).

SmartCon was an attractive workplace, seen as different from other consulting firms. For junior employees in particular, the love component of recognition was central to the firm’s attractiveness:

‘I was working for a large consulting firm and decided to change because of the [culture of] gigantism in my former firm. I never liked [working in] an environment in which you are simply a number.’ (Senior Consultant_5).

Another difference was that young consultants at SmartCon could work closely with partners, which the stronger hierarchies of other consulting firms mostly prevented.¹⁵ Employees perceived this as a chance to receive feedback on their performance and grow personally and professionally. Employees’ lower pay compared to their peers at other firms was partially offset by a steeper learning curve, the feeling of being seen, and the family culture:

‘The exposure to the firm’s management is the reason I work here. I highly appreciate the value of the relationship with the partners. In a Big-4 you wouldn’t even know who the partner is.’ (Consultant_3).

Consultant_3’s corroborate SmartCon’s ability to combine multiple modes of recognition, which in core respects were self-reinforcing. One of SmartCon’s unique features was its open and supportive

¹⁵ To triangulate and better understand comments from SmartCon employees about *other* large consulting firms, we reached out to eight employees currently working for Italian Big-4 firms and asked them about their experiences with the PMS in their firm. Although we do not report these interviews here in detail, they have helped making sense of the comments made by our interviewees at SmartCon.

work environment, in which employees of all levels could work closely with the firm's two founders and the partners that subsequently joined to support its growth. SmartCon's relatively small size and 'youth' allowed for a flat organizational structure with informal feedback mechanisms.

Until 2012, performance evaluations consisted of face-to-face discussions with employees about their behavior and attitude within the team and with clients. This direct feedback allowed consultants to feel 'seen' and learn from their interactions:

'Having direct interaction with more than one partner has always been useful to me. From each person, you learn something qualitatively new. In no other place can you learn as much.'
(Senior Manager_1)

However, as the firm grew, the founders had less time for ongoing feedback, leading to the implementation of a PMS that stressed both qualitative and quantitative feedback, largely based on a PMS used in another consulting firm. The old PMS utilized a performance sheet with three dimensions: problem-solving approach, management of activities, and client relationships. The evaluator determined on a three-point scale whether the individual's performance 'needed significant improvement,' 'was good,' or 'was remarkable,' and provided a written, qualitative justification. Performance was evaluated after each project, and the evaluated employee could also give qualitative feedback to the team supervisor. A senior consultant explains the importance of this upward feedback:

'The old PMS gave the possibility for everyone to express an opinion. It is [also] important for the evaluator to receive feedback. For example, if in a project there were conflicts or problems, a manager can benefit from the perspective of a consultant, who has viewed the project from another perspective. Also, giving 'voice' to the evaluated person is very important. It is important for the firm to take into account the opinions of each employee, regardless of one's position in the [hierarchical] ladder.' (Senior Consultant_3)

This quote foregrounds two types of recognition: acknowledging people's expertise; and giving each person a 'voice' in the firm. In recognition-theoretic terms, seeking upward feedback is an implicit marker of esteem, since it denotes that even more junior workers can offer unique insights to more experienced colleagues. At the same time, upward feedback implies a base level of respect, in the sense of acknowledging an underlying 'equality of worth' between staff of different

hierarchical levels, an underlying normative standard that preceded – and in some ways underpinned – the subsequent esteem.

A manager with more than ten years of experience at SmartCon describes the more evaluative components of the old PMS as mostly feedback-based, emphasizing the contributions of employees in the workplace (Beer, et al., 2022). The evaluation sheets were ‘formalities,’ while the actual performance appraisal occurred mostly during the projects:

‘At the beginning we had evaluation sheets with at most three elements – a formality. However, I learned mostly by doing [my job] and by receiving constant feedback from my former managers.’ (Manager_2)

During the interviews, participants occasionally mentioned also tangible elements of recognition. Nevertheless, when discussing these tangible aspects, they often did so in conjunction with intangible aspects of recognition. This pattern indicates that employees felt a ‘balance of recognition’ for their individual efforts, as their performance was closely connected to their compensation. This combination illustrates the interplay between tangible and intangible aspects in the recognition process:

‘I knew what was expected from me when my performance was assessed. And this was mirrored also in my compensation. I never had a doubt when I received my bonus because it was correlated with my effort.’ (Senior Consultant_7)

Indeed, employees acknowledged that bonuses were relatively small and distributed to everyone, with only ‘negligible’ differences between top performers and low performers. Employees worked approximately the same hours, and the feedback-based system was perceived to be fair in recognizing their contributions. It is important to note that tangible aspects were likely associated with intangible aspects of recognition, as the former were not deemed as significant as the latter. This connection emphasizes the greater importance placed on intangible recognition elements within the organization:

‘What I really valued at SmartCon was its meritocracy. They used to recognise the work you carried out appropriately, and understood your value. There was great attention for the *person*. For example, we used to do a lot of training to strengthen our hard and soft skills. We were

also used to be more involved in the [project's] strategy and decision-making process.' (Manager_5, emphasis added)

As Dejours (2014) emphasizes, normative recognition of the value of one's contribution depends on one's work being recognized in the descriptive sense of being visible, as when you recognize a colleague or friend in a crowded street. In this sense, feeling seen denotes not only a normative relation of respect, but also a precondition for meaningful performance evaluations (i.e. esteem). Employees felt seen, saw their contributions acknowledged on a regular basis, and received insightful feedback. Reflecting on those early years, several interviewees described feeling part of the 'family' after they were hired. Drawing upon our initial analysis of how SmartCon utilized specific control tools to manage its employees in the past, we conclude that it diverged from the type of consulting firm examined in the study by Alvesson and Kärreman (2004). Once hired, employees did not feel either 'insignificant' or 'perfectly exchangeable' in the past. Instead, the old PMS was intricately connected with the intangible cluster of recognition, which included aspects such as esteem, respect, and love. Employees felt acknowledged, had their unique value to the firm emphasized, and experienced a family-like environment where their distinctive needs and interests were considered. This blend of intangible recognition dimensions attracted individuals who prioritized a warm work environment and a healthy work-life balance, even at the expense of a lower salary.

Tensions and Trade-offs in Recognition

While the old PMS at SmartCon fostered an environment rich in intangible recognition, such as love, esteem, and respect, the rapid growth of the organization resulted in new tensions and trade-offs in recognition. The balanced interplay between tangible and intangible clusters of recognition, which had been part of the firm's culture, began to change as the firm.¹⁶

The expansion of SmartCon presented challenges for the old PMS, as it struggled to effectively address the increasing number of employees and projects. As the firm grew, new partners

¹⁶ Since 2012 the number of employees grew at an annual rate of approximately 30%.

were hired to support its growth; however, they brought with them their own view of how employees at lower levels should work within the firm. SmartCon's growing focus on commercial development and higher service quality standards led to a shift in recognition dynamics. This shift resulted in a greater emphasis on individual performance and results, which began to conflict with the initial focus on nurturing a familial and supportive work environment. An employee who has been with SmartCon for twelve years reflects on their experience working in a small boutique consulting firm and the main consequence of rapid growth:

‘When I joined SmartCon, the firm was small and poorly organised, although the advantage was the possibility to call the CEO anytime. There has been a strong growth, and now the firm is a renowned brand and is respected, also among larger competitors.’ (Senior Manager_2)

The founders' initial emphasis on fostering a familial and supportive work environment was challenged by the increased focus on commercial development and higher service quality standards, which prioritized individual performance and results, as well as the new partners' perspectives:

‘In the past, managers had in [Founder_1] and myself two constant figures that helped them to improve – we were probably more patient back then. However, we increasingly required more quality in the delivery of our services. To put it differently, we have raised the bar and have higher standards now. We now require much more in terms of personal competences.’ (Founder_2)

The idea of designing a new PMS came to counter employees' tendency to ‘take [their job] too easily’ (Partner_3), to be ‘merely executors, not providing any substantial value added’ (Partner_1) and to ‘be more proactive, and more ambitious to be partners one day’ (Partner_2). According to the new partners, an ‘ideal’ employee in SmartCon should ‘continuously sell projects to clients’ rather than having ‘no motivation and no good KPI’ (Partner_3). Thus, a quantitative PMS was intended to focus more strongly on results (i.e., *judgments as to usefulness*) and less on people's work and professional values (i.e., *judgment as to beauty*). This change in the PMS was intended to counter the previous tendency towards intangible recognition and instead prioritize tangible recognition, in line with the firm's new values and needs.

The founders asked two partners who recently joined SmartCon from larger consulting firms to re-think the firm's PMS, together with the HR manager and a senior manager, and finally implemented its new PMS at the end of 2019.¹⁷ According to various interviewees, the partners who helped design the new PMS used it to impose his view of what 'working at a consulting firm' means in SmartCon. During our interview, he commented:

'Here, what's missing is ambition and toughness. Employees here are completely different than those at my previous firm. This is why the average 'price' per person at SmartCon is less than a quarter that of an employee working for my previous firm.' (Partner_1)

Partner_1's statement highlights his focus on the practicality and usefulness of employees' skills and attributes, indicating a desire to transform recognition dynamics at SmartCon by prioritizing esteem and respect based on value-added. While he did not mention any particular element of recognition, it is evident that the love aspect of recognition appears to be overlooked by this partner.

This change in recognition dynamics was further exacerbated by the growing number of employees, making the old PMS with its qualitative justifications and upward feedback possibilities less suitable for evaluating and comparing performances across the organization:

'The strong growth meant we had to shift our focus on the commercial development and decrease our focus on the management of the people. We needed the most objective PMS possible, although I am aware that objectivity is difficult to achieve in consulting.' (Founder_1, emphasis added)

This quote from one founder highlights the challenge of achieving 'objectivity' in the assessment of consulting work, making the concept of 'value-added' difficult to define 'objectively.' In this regard, Partner_2 remarks: 'We do not manufacture shoes.' However, the subjectivity in assessments may be intertwined with key recognition-level aspects, and the way in which these assessments are made can impact perceptions of judgments regarding *beauty* and *usefulness*. As we will discuss in the following section, the shift towards results likely implied an unbalanced PMS towards prioritizing judgments as to usefulness, which also triggered disagreements among employees who hold different principles

¹⁷ Unfortunately, this senior manager was not available to be interviewed while carrying-out our study due to serious health issues. Nonetheless, the two partners in charge of the new PMS were interviewed (Partner_1 and Partner_2).

and perspectives on evaluation criteria (Chenhall et al., 2013), affecting their perceptions of the love, esteem, and respect aspects within the recognition process.

Recognition Dynamics: Exploring Intangible and Tangible Aspects in the New PMS

Building on the previous section's discussion of the shift in recognition dynamics at SmartCon, this section delves into the operationalization of the new PMS and its impact on employees' perceptions and experiences of recognition. The partners' agenda to instill ambition and toughness led to the design of a new PMS that ranks and compares employees' performance, solidifying the shift towards a more hierarchical recognition model with a greater emphasis on performance elements. The strict quantification mechanism used to evaluate employee performance reflected a 'tangible' approach to recognition, which emphasized the achievement of results over intangible considerations. This section also explores how bonuses and other incentives operate within this new recognition framework, further highlighting the importance of tangible aspects of recognition in shaping employees' behavior and attitudes towards their work.

In the new PMS, consultants are assessed across six dimensions, each with five items rated on a four-point scale (Appendix III). Managers, on the other hand, are evaluated using 12 items on the same scale, but without separate dimensions (Appendix IV). The ratings are: (1) 'under-performing' - below expectations; (2) 'on track' - meeting expectations; (3) 'over-performing' - exceeding expectations; and (4) 'star' - exceptional performance, setting an example for the entire firm. Both consultants and managers were evaluated by a person one level up the hierarchy, beginning from the senior consultant. Peers cannot evaluate each other: only someone more senior can evaluate subordinates' performance. The employees (at any level) must first evaluate themselves on each performance element. Once a year, supervisors and subordinates meet formally to compare and discuss the supervisor's evaluation and the self-evaluation. In case of a mismatch, the two are expected to discuss why the performance perceptions differed. Occasionally, the supervisor changes

the assessment based on the subordinate's answers. Appendix V shows an example of the first section of the PMS from an employee who voluntarily shared with us his latest performance review.

The new PMS requires subordinates and supervisors to discuss their quantified evaluations. However, interviewees reported that these discussions could be as short as ten minutes, suggesting that supervisors may not provide thorough qualitative feedback. Consequently, possibilities for subordinates to learn from their superiors and their feedback decreased:

‘What I liked the most about SmartCon is what changed the most during the last years: Now I do *not* have constant feedback, and the growth mechanisms are *different*. They are much *slower* now.’ (Manager_7, emphasis added)

The changing work conditions accompanied more formal evaluation processes. The following quote is indicative of how the process became laborious and ineffective for both employees and supervisors:

‘I feel that the performance evaluation moment is a formality. It is more about: ‘let’s try to reach an agreement on what is the evaluation, and if there are no large deficiencies, you get the average.’ It is more difficult to receive a meaningful feedback now.’ (Senior Consultant_4)

Interviewees frequently reported that the new PMS reduced the perceived usefulness of the review process, creating a disconnect between their perceived intangible and tangible recognition. Senior Consultant_5 pointed out a specific issue with the system:

‘What lacks in the new system is a concrete definition of the [personal] goals. No one told me: ‘Let’s agree on your next objectives.’ The performance evaluation moment is static, and used just to define your bonus. But I don’t believe that there is a clear intent to improve people’s competences.’ (Senior Consultant_5)

This perception raises questions about the effectiveness of the new PMS in nurturing key recognition aspects, highlighting one’s contributions in the workplace (Beer, et al., 2022). The employees’ perception of the new PMS suggests that it may not be effective in supporting the intangible aspects of recognition that were emphasized through the old system.

Employees, in fact, felt a sudden shift at SmartCon, with some noting that cultural elements that once made the firm unique were beginning to be lost. Consultant_2, for example, reflects on how the culture has become more Big-4 like in the past two years

‘In the last two years I feel that the culture is much more Big-4 like. We lost the culture of being a small boutique firm. I blame the entrance of four new partners in the firm, who have changed the working culture.’ (Consultant_2)

This quote illustrates how the firm’s PMS affects its culture through recognition, reshaping not only whose efforts are recognized but also the modes of recognition provided. Specifically, the way the PMS appraises and recognizes effort emerged as a crucial expression of, and mediator between, the organization’s shared values and beliefs and its employees (Chenhall, et al., 2013; Mahlendorf, et al., 2014). In terms of recognition, the new PMS moves away from the preceding modes of recognition based on respect and love, and places a stronger emphasis on a subset of esteem, specifically ‘admiration for talent/performance’ over ‘collegial appreciation’ (Voswinkel, 2012), and towards what Dejours terms *usefulness* to the firm relative to collegial judgments of ‘beauty.’

So paradoxically, while the PMS became more granular and ‘precise’ (i.e., more numerical rankings in more categories), this reconfiguration seemed to decrease its ability to provide meaningful feedback, which supports the notion of the inherent limitations of quantification (cf. Robson, 1992). From a recognition theoretic approach, an effective PMS should not only evaluate performance but also promote employees’ personal growth, work-related self-esteem, and respect for their unique contributions (Kubiak, 2022; Rosso, et al., 2010; Tweedie, et al., 2019). By emphasizing quantification at the expense of meaningful feedback, the PMS seems to contribute to employees’ perception of the system being ‘static’ and not particularly useful to foster personal growth.

At the same time, fuelled by the new PMS, the relationship between partners and employees at lower hierarchical levels became more formal: partners started to see themselves less as ‘mentors,’ and more as ‘internal clients,’ and others in the firm changed their view of partners accordingly:

‘I know that I am doing well because of my relationship with the client. Actually I have two

clients, an ‘internal’ client and an ‘external’ one. I must make them both happy to claim to have done well.’ (Manager_5)

The new PMS significantly impacted participants’ perception of the ‘love’ component of recognition, emphasizing the intricate relationship between intangible recognition and PMS within SmartCon. Instead of focusing on recognition forms that underscore the visibility of the subject and foster a sense of belonging, such as respect and ‘love,’ the new PMS appears to prioritize modes of esteem that emphasize the product over the producer. Dejours’ concept of usefulness exemplifies this shift, as it centers on employees’ attributes and skills in terms of their value-added to the firm.

The new PMS also prevents individuals at lower levels from providing upward feedback. The partner in charge of designing the new PMS eliminated this element, while referring to consultants as people ‘at the bottom’ who should not express an opinion of his work:

‘Upward feedback prevented me from becoming senior partner in my former firm. It is not right to receive feedback from someone *at the bottom*. They don’t have enough information to evaluate me.’ (Partner_1, emphasis added)

This removal of upward feedback signalled to employees that their opinions (about their supervisors) were not valued anymore:

‘I would like to have the possibility to provide feedback to the person who is in charge [of the project]. The one who’s in charge doesn’t always have a ‘global’ vision [of how well we are doing]. I want to have the tools to let him know *what I thought* about his way of interacting with me. This might help managers to improve.’ (Consultant_8, emphasis added)

The respondent’s insights highlight the importance of a PMS that addresses recognition themes such as contribution and respect through bidirectional feedback systems. These systems enable employees to provide feedback to their supervisors, promoting a sense of usefulness and recognition within the organization. By transitioning from passive actors to active participants, evaluatees not only reinforce their sense of usefulness but also contribute to the overall effectiveness of the PMS.

Having explored the impact of the PMS on intangible recognition, we now shift our focus to examine the relationship between the PMS and tangible aspects of recognition, such as bonuses, which play a crucial role in motivating employees within the consulting industry. Our analysis of how bonuses are computed by the firm has revealed that each assessed performance evaluation has a different weight attached, and the final score is calculated based on a system of weights and measures.¹⁸ This final score is then used to rank employees, and the bonus is assigned accordingly. However, the mechanisms of this algorithm are not known to employees, who would criticize the system because of a perceived weak connection between the bonus and the performance evaluation:

‘The new system involves now many more processes than before. Now you have more dimensions on which you are evaluated. The problem, however, is that there is *absolutely no alignment between the scores that you get and the bonus you obtain* at the end of the evaluation process. I don’t understand [the connection], if I achieve high scores, why do I get this particular bonus, and how it is calculated? The entire process is unclear at best.’ (Senior Consultant_7, *emphasis added*)

‘I have no idea how my bonus depends on my performance evaluation. The process creates *bad temper* because I have no idea how the reward is correlated with my contributions in this firm. The evaluation criteria also make no sense for this reason.’ (Manager_4)

Rather than having a transparent system that linked bonuses to performance, some employees believed that the CEO defines the total bonus ‘depending on how he wakes up in the morning’ (Senior Consultant_3) and tried to avoid having too much variation in the distribution. In this way, he hopes ‘everyone is happy’ (Senior Consultant_3) and motivated. While the existence of an ‘objective algorithm’ was intended to create a sense of fairness and objectivity in the system, it has instead fostered feelings of uncertainty and a perceived lack of care for individual employees. This perceived arbitrariness undermines the algorithm’s purpose and erodes the intended benefits of a transparent and objective system. Furthermore, the lack of a clear connection between individual performance and bonus allocation creates a sense of disregard for employee contributions, leading to feelings of being undervalued rather than cared for. Employees were left puzzled about their specific bonus

¹⁸ Such processes, which share similarities with the forced rating systems discussed by Cardinaels and Feichter (2021), might inadvertently result in undesired consequences for individuals.

amounts, as the firm seemed unable to clarify their reasoning.¹⁹ This lack of transparency fueled frustration, feelings of unfairness, prompting individuals to delve deeper into the issue:

‘Last time, I took my bonus and divided it by my annual salary. Then I asked myself: Why haven’t I reached the maximum amount indicated in the contract? I am missing something here. So I asked the firm. And then they tell me things that are not sound at all and that are in contrast with what they say to my peers. Here at [SmartCon] we always say that we are part of a family, but is it really one?’ (Manager_3)

Employees initially chose to work at SmartCon due to the growth opportunities, family culture, and close relationships with partners, accepting lower pay compared to other firms as a ‘trade-off.’ These factors suggested that intangible recognition could substitute for tangible recognition in the form of higher financial benefits. However, the new PMS altered this balance, as the culture became more formalized, growth possibilities declined, and the hierarchical distance to partners increased. Consequently, employees started wondering if the firm still upheld the family culture they valued. Employees felt that the tangible recognition they received, such as bonuses and fixed pay, was no longer justified by the diminished intangible recognition.

The frustration resulting from the disconnect between intangible and tangible recognition led employees to question their performance, as Consultant_8 highlighted, who received a bonus that seemed ‘undeserved’ with respect to the perceived effort:²⁰

‘When I received my bonus I thought: Who made me do this? I don’t deserve this. I have tried to investigate on why I received this bonus and the HR Manager couldn’t clarify anything. My evaluation went very well, my self-appraisals were similar to those provided by my supervisor. So, why couldn’t I receive a good [higher] bonus? I don’t have a clear guidance on how well I am doing.’ (Consultant_8)

The mismatch between employees’ perceived effort and recognition undermines the esteem they would otherwise accumulate from their work and position (Honneth, 2010). Honneth (2007, p. 346) speaks about the ‘abyss’ that can exist ‘between the evaluative promise and its material fulfillment.’

¹⁹ It is important to note that we corroborated this evidence through an interview with the HR Manager, who confirmed having received multiple calls from dissatisfied employees inquiring about the reasoning behind their specific bonus amounts.

²⁰ While feelings of non-deservingness may be present in any compensation system, our focus is on the misalignment between tangible and emotional recognition in SmartCon’s PMS.

When such a gap exists, the recognition from the positive evaluation ‘does not meet the material demands of credible, justified recognition’ (Honneth, 2007, p. 346).

Having explored the impact of the new PMS on employees’ perceptions of intangible and tangible recognition, we now shift our focus to understanding how these altered perceptions affected emotions and behaviors. By investigating subjective experiences, we can delve deeper into the consequences of the recognition dynamics and how individuals responded to the new system.

The Interplay of Intangible and Tangible Recognition: Examining Emotional Reactions and Behaviors

In this section, we examine how the new PMS affected employee wellbeing by analyzing subjective accounts of their experiences through recognition. By exploring the effects of the new system on employees’ perceptions and reactions, we aim to gain valuable insight into the broader impact of the PMS on their overall sense of wellbeing.

Imbalance of Tangible and Intangible Recognition

The new PMS had unintended consequences that hindered individual recognition, affecting employees’ emotional states, wellbeing, motivation, and commitment. These experiences reveal the consequences of failing to address intangible and tangible aspects of recognition through the new PMS. Consultant_6’s comments illustrate the complexity and lack of clarity within the quantitative evaluation system, leaving employees unsure of how well they are performing and frustrated by elements outside their control:

‘How can you synthesize one year of work into an evaluation sheet with a scoring mechanism from 1 to 4? The system lacks clarity. I don’t understand why the scoring is made that way, and what is the relationship with reality. I don’t understand how well I am doing with this system. Moreover, there are elements included I simply have no influence on. For example, if I did not have much contact with the client, how are they supposed to evaluate me on this element? You are just penalized [with a low score] where you had little to no influence. The evaluation sheet is too simplistic.’ (Consultant_6)

Consultant_6's words reveal the effects of disagreements among individuals who hold different perspective on evaluation principles (Chenhall et al., 2013), exposing the unintended consequences of the new PMS. The PMS's focus on quantifiable metrics and oversimplified evaluations might lead to feelings of 'alienation.' Simultaneously, the arbitrary nature of the evaluations can potentially weaken the respect dimension, which ought to be grounded in a thorough comprehension of individual abilities and contributions.

The higher emphasis on the quantification process and outcome elicited a range of negative emotions among workers, and core accounts highlight the inherently hidden elements of work that are difficult for both observers and workers themselves to grasp (Dejours, 2014):

'I don't think that I can influence my performance on every element. Managers do not know everything. This is why, during the performance review, I do my best to explain them everything that I have done. Sometimes it is a *fight* to make them understand things, because there are certain aspects that cannot really be explained with words. You thus *struggle* to explain your value added. Not being on the same page leaves you with a sense of *frustration*.' (Senior Consultant_6, emphasis added)

Many interviewees echoed this perception. The language of struggling to explain one's contributions points towards what Dejours terms the 'real' of work, which he explains as an *encounter* between an hidden psyche or self and a visible world (the outcome of the product, service or satisfied client). The inability to articulate these hidden or subjective components of their work may result in feelings of frustration and inadequacy. In our case, as employees find it difficult to showcase their value to their managers. The struggle for understanding and validation not only presents itself as a list of individual concerns but also weaves a complex web that significantly impacts the love, esteem, and respect aspects of recognition. The erosion of recognition in the form of love arises as the feelings of support from supervisors weaken, which in turn is closely linked to the respect aspect. Employees may feel undervalued due to the inability to effectively communicate their accomplishments, further contributing to the decline in respect. Additionally, the esteem aspect becomes compromised, as individuals may experience a sense of being undervalued and demotivated when their contributions

are not adequately acknowledged or understood. In this way, the interconnections between love, esteem, and respect aspects of recognition create a nuanced and multifaceted lens through which we can theoretically understand the challenges employees face to make sense of the new PMS.

Furthermore, the quantification of performance also shifted supervisors' attention to employees' *past* performance, rather than their *future* potential or development. During performance reviews, questions such as 'What can I do to improve?' – also relevant from an identity direction perspective (cf. Karreman & Alvesson, 2001, p. 64) – were hardly discussed:

'The performance review does nothing to make me see the long-term perspective of my career. It simply sets an evaluation on your *past* [performance]. No one tells you: '*In order to grow here, you need to improve in this aspect.*' They just give you a score that is uninformative of what the firm expects from you and from your work. When I discuss about this with my colleagues we all agree, and *everyone, including myself, is unhappy about it.*' (Consultant_8, emphasis added)

The new PMS also decreased the (informal) feedback employees previously received. This worsened their understanding of how well they performed during a project and how they could further improve.

One interviewee indicated this lack of 'care' made her suffer:

'There are times in which I perceive that the absence of feedback limits my growth. The feedback comes only from the client. It is the only thing that makes me learn from my work. If the client is less participative and informing, the situation would be much different, because I would not have a guide and would stop *feeling considered*. In the long-run, the lack of constant *care* makes you *suffer*.' (Consultant_7, emphasis added)

This quote foregrounds the multiple forms of recognition, with esteem from clients a partial substitute for the more collegial colleague recognition (Tweedie & Holley, 2016) the new PMS displaced. Yet Consultant 7's remarks also show, as Dejours highlights, how different types of recognition are not perfect substitutes: In this case, esteem from clients did not displace her need to be respected, esteemed, or even in a certain sense 'loved' by her colleagues.

Expanding on the intangible recognition aspects, the new PMS's limitations became apparent, as it struggled in capturing employees' full efforts comprehensively. Manager_3's quote highlights

how the PMS overlooks crucial aspects like preserving client relationships, intensifying employees' invisibility and likely impeding perceptions of recognition:

'My job is to guarantee that the relationship with the client is preserved. If the client signs for an extension of the contract, or renews the contract with us, this surely implies that we did a good job. However, the performance management system in SmartCon does not make this visible. Actually, the opposite happens. Partners take credit for something that we, as a team, managed to achieve.' (Manager_3)

A similar feeling is expressed by younger employees, who work many hours to prepare presentations for clients:

'My effort is not recognised in SmartCon. If they evaluated my real effort well, they would take into account the extra-working hours [in the performance evaluation]. The problem is that partners always say 'yes' to the clients' [additional] requests. However, the extra work is then performed by us and the managers, who take the burden of decisions we didn't even take.' (Consultant_5)

By contrast, SmartCon's CEO seemed either unaware or agnostic about the significant impact of the new PMS on employees, and argued that change was a necessary and continuous process: 'It is not true that there exists a new SmartCon today in contrast to an old SmartCon. We are pursuing a path in a precise direction. To be able to compete in such a complex market, a firm needs to change things at some point.' (Founder_1) According to the CEO, the values that made SmartCon unique were not lost completely, and 'change' supports SmartCon's growth strategy.

Effects of (mis)recognition on wellbeing, motivation, and commitment

Despite the CEO's perspective on the new PMS as a strategic change, the consequences for employees were significant at both the cognitive and behavioral level. At the cognitive level, employees perceived themselves as being 'left alone' and replaceable, as they might feel in any other large firm:

'I feel a number because I have the perception that if I ever leave the firm, no one would care. I would be 100% replaceable. The firm wouldn't fight for me, but it would simply look for a

new person to replace me. This sensation is due to the little transparency that the firm has with respect to the performance system and especially the bonuses. [...] I received an important offer from another firm, but I refused, because [back then] I believed that the sensation of being left alone was a short-term one. Instead, I was wrong. If the offer came today I would probably accept.' (Consultant_2)

In Honneth's terms, feeling '100% replaceable' directly opposes recognition as esteem, as it indicates that one's unique contributions are not acknowledged or valued. This lack of intangible recognition, combined with the perceived opacity surrounding the performance system and bonuses (tangible recognition), led to Consultant_2's sense of being 'left alone.' Ultimately, his dissatisfaction culminated in voluntarily resigning from SmartCon and moving to a competitor. Other employees also cited similar reasons for considering leaving SmartCon in response to the recent changes.

The introduction of the new PMS has led to a shift in employees' perception of recognition at NextStep. Senior Consultant_3's quote reveals that the diminished intangible aspects of recognition have caused him to place greater emphasis on tangible recognition. This contradicts their initial motivation to work at NextStep, where lower pay was justified by ample recognition opportunities:

'If I would change jobs, I would certainly earn more money. I would like my firm to acknowledge my value. And for now, this is not the case. I am not willing to work more than what I am paid for.' (Senior Consultant_3)

Similarly, Senior Manager_2 expresses dissatisfaction with insufficient tangible recognition:

'The fact that the firm does not recognise our value, at least from an economical perspective, is a fact. The firm has two choices: Either it continues to ask for more effort, but recognises it by paying the effort, or it goes back into its old ways of working.' (Senior Manager_2)

During our interview, this senior manager also reflected on how recognition was previously achieved through a combination of informal culture, colleague recognition, and opportunities for advancement, which compensated for the lack of a clear PMS with accompanying bonuses. However, with the introduction of the new PMS, intangible recognition aspects have been lost, but the PMS has

not adequately filled this gap. This suggests that a well-functioning PMS is important for tangible recognition, but it should not come at the expense of intangible recognition.

For other employees, the reduced intangible recognition emphasized the need to make themselves more visible to those who evaluate their performance:

‘My team’s effort is almost never perceived as such. For example, if I work during weekends the partners do not see it. Partners give us things to do, and they never stop and think about how much time this will require [to be done]. We [managers] need to raise our hands to make ourselves seen by the partners.’ (Manager_4, emphasis added)

‘I hope that partners understand the amount of work that is behind the slides. On one hand this is visible to them, because I send emails at 11 PM or during weekends. I don’t want to do this because I want them to tell me ‘Oh look how good she is’ but when I give myself for 120%, I want them to see it. I do this also for my team: I want to enhance the team’s effort. If they work during Saturday, the partner needs to know that.’ (Manager_5, emphasis added)

The two quotes illustrate employees’ implicit desire for a better balance of intangible and tangible recognition, emphasizing the need to be ‘seen’ by senior partners. This visibility entails not only being noticed but also being positively evaluated. The change in partners’ perceived ‘identity’ from mentors to clients and the focus on quantitative aspects of the PMS have raised concerns among employees, as these actions may appear unnecessary or counterproductive in a context where recognition is valued. Simultaneously, the weakened connection between tangible and intangible recognition exacerbates the situation, as employees struggle to find alternative ways to compensate for the diminished recognition in both dimensions.

This shift in focus and the resulting concerns about recognition had repercussions on employees’ commitment to the firm. Employees are well informed about competing firms’ salaries through friends and ex-colleagues. Previously, they were reluctant to even consider leaving SmartCon, but the situation has changed. The lack of transparency between performance evaluations and bonuses exacerbates employees’ frustrations, leading to decreased job enthusiasm and a rise in voluntary resignations:

‘There is no transparency in the relationship between bonuses and [performance] evaluation.

For example, if I received that bonus, I don't know why I received that amount. How was that bonus computed? There have been a lot of voluntary resigns, and I am thinking of doing the same. The enthusiasm I have for my work is now certainly lower than when I joined SmartCon. For example, before I did late hours and I was ok about it. Now, it is a burden in my life.' (Consultant_9)

The unbalance between intangible and tangible aspects of recognition made it more difficult for even employees with positive evaluations to see what value they added:

'I always receive positive appraisals from my partner. This is great right? No it is not. Because if to a positive appraisal there is not a corresponding increase in bonus or a defined career path, then receiving a positive feedback is even worse! It is useless for me to dedicate much effort, like working until 10 p.m. There is no point in doing so.' (Manager_2)

Manager_2's quote illustrates the complex relationship between intangible and tangible recognition aspects at SmartCon. While positive appraisals can be considered a form of intangible recognition, they can paradoxically lead to negative emotional reactions if not accompanied by tangible elements of recognition, such as bonuses or defined career paths. This supports the imbalance of recognition argument but also suggests that the absence of a meaningful connection between tangible and intangible recognition could contribute to the issue. The quote highlights the importance of a coherent and integrated recognition system that effectively addresses both intangible and tangible recognition. As Honneth (2007) argues, there must be a material fulfillment of the evaluative promise for recognition to positively impact self-relations. Without such fulfillment, positive appraisals may actually weaken rather than enhance an individual's esteem.

Loyalty and firm commitment seem to have eroded as a consequence of the lower extent to which employees feel their work is recognised:

'I am now open for interviews [with other firms]. Up to one year ago, I didn't even reply on LinkedIn [to job offers]. To make me feel the same way [about my job as one year ago], SmartCon must better recognise our value, for instance by increasing fixed salaries and bonuses.' (Manager_1)

More senior employees are sympathetic towards their younger counterparts. For example, young consultants often ask managers for career advice. SmartCon's new work conditions and the way the firm is (mis)recognising employees' effort, sometimes leads managers to counsel young consultants to leave:

'If you are a young student that recently graduated from college, I would suggest to work at least one year at [SmartCon]. However, if you are a consultant that seeks personal growth, I would suggest you to change to another firm. I had a brilliant consultant working under my supervision, and I shared my point of view with him. Now he is working elsewhere.'
(Manager_6)

Manager_6's suggestion for young consultants to seek opportunities elsewhere after gaining experience at SmartCon highlights the potential harm of inadequate recognition, as valuable talent may leave, potentially impacting the firm's prospects and competitiveness. It seems that leaving the firm is at least partly a consequence of the way SmartCon fails to recognise the value of the work of the employees – both in the new PMS and the disconnect from bonuses. Notably, managers find it difficult to keep their team members sufficiently motivated to perform well:

'I told to my partners: 'My job is becoming increasingly difficult to carry out.' I have to manage people to which I owe explanations. I have this consultant whose performance was very high. It is difficult to keep him motivated. Even by 'pushing' him [in performance reviews] he remained at the consultant level [and was not promoted]. I cannot do much more.'
(Manager_7)

By contrast, partners agreed that employees' efforts were already paid fairly. One partner put it like this:

'Their salary is lower than what competitors pay? The fact that I know how to play football doesn't mean that I can demand to get paid what Ronaldo is getting paid.'
(Partner_1)

Some partners at SmartCon hold the view that the firm's employees may not be as highly skilled as those at other firms, which they believe justifies the employees' lower pay. They perceive that the more formal PMS has contributed to this shift in perspective, as it enables the ranking and comparison

of employees' performance. This, in turn, results in a small category of highly performing employees and many average performing employees, making it difficult for anyone to 'demand' better pay.

For some, the impact of not feeling recognised made them rethink their future at SmartCon:

'You know, when you do your performance review and you don't understand how was your performance and how your bonus is related, you don't immediately change your way of working. I always try to give my 100% to my clients, because I want to be professional in my job. However, in the long-run, it really impacts you and *the way you see yourself*. You do a balance of the pros and cons, and draw your conclusions.' (Consultant_6, *emphasis added*)

The quote from Consultant_6 sheds light on how the lack of clarity and complexity within the PMS affects intangible and tangible recognition in both the short and long run. While employees may continue to give their best efforts to maintain their professionalism, the cognitive process of evaluating the pros and cons in the long run may lead to negative consequences such as speaking up or leaving the firm. Over time, this can have a significant impact on their sense of self-worth and overall wellbeing. According to another young consultant:

'My plan is to become senior consultant here. However, if even this year the firm denies to value my contribution, I will seriously consider leaving the firm. Telling me 'bravo' [alone] is not enough.' (Consultant_5)

The perceived lack of intangible and tangible aspects of recognition can lead to a re-evaluation of the individual's commitment to the firm and career trajectory. The disconnect between the promise of recognition and its material fulfillment is relevant because recognition that is not validated by tangible tokens of appreciation may not be credible in Honneth's (2007) sense. This highlights the importance of both intangible and tangible aspects of recognition in promoting stability in individual's commitment to their career and the organization.

From the analysis of the firm's turnover data, around 15 employees voluntarily left the firm in the month that followed the meeting where the performance evaluations were addressed. For a firm of about 100 employees, this meant a very substantial loss. Employees shared with us that it became

a challenge to keep their former colleagues motivated enough to remain inside the firm – the majority resigned from the firm because they felt their efforts were not recognised appropriately:

‘I left because the salary was not sufficient with respect to the working conditions. SmartCon did nothing to *make me feel important to them*, and to *recognise my value* with the appropriate incentive systems. Moreover, many people have long been waiting for a promotion, and I was one of them.’ (Former Employee_1, emphasis added)

The absence of a clear career path linked to outcomes of PMS-based evaluations discourages employees to remain in the firm. Another interviewee, who would soon quit his job, added:

‘I chose to leave SmartCon *not only* for the way I have been treated, but also because they *did not recognise my value and the value of my team*. In three years we tripled the team’s revenues, and we did not see any economic rewards for this result. At 31 years old I should already be a manager. One year ago I was doubtful on whether to change job, but chose to stay in SmartCon to give them another chance. This year, I finally decided to leave the firm. (Senior Consultant_5, emphasis added)

Aware that SmartCon increased the workload and raised expectations without a corresponding increase in economic rewards or career advancements, senior employees felt the firm could no longer advertise its unique culture:

‘The [good] work/life balance simply doesn’t exist anymore. The firm should stop advertising this externally, or people will think that our economic rewards compensate for the work conditions.’ (Manager_5)

The empirical section brought to light the intricate relationship between recognition, PMS, and employee wellbeing, motivation, and commitment to the organization. Our analysis underscores the significance of attending to both intangible and tangible aspects of recognition when implementing new PMSs. To build on these findings, the next section will delve into their relevance for the wider literature on PMS and individual-level (re)actions. Additionally, we will propose ten propositions that explore the intangible and tangible facets of recognition, their interplay, and the overarching individual-level impacts.

4.6. Discussion

The aim of this study was to explore how and why a PMS succeeds or fails in recognizing employees' value and contributions, as well as the subsequent impact on their wellbeing and commitment to the firm. By examining the effects of PMS on psychological states and processes, our study contributes a novel perspective to the literature on motivation and management control. Interestingly, the unexpected outcome of our study emerged from the belief held by SmartCon's founders and partners that the new PMS would enhance objectivity and transparency. They expected employees to readily understand the shift in recognition in light of the firm's growth and the increasing complexity of its projects. However, the results revealed that the new PMS had unintended consequences, significantly impacting employees' wellbeing, motivation, and overall commitment. This unexpected outcome highlights the importance of understanding the intricate relationship between formal PMSs and the cognitive and emotional reactions they elicit, thus explaining why managerial intentions and employees perceptions of the same controls might differ (Tessier & Otley, 2012).

Our study contributes a novel perspective on the effects of PMS on psychological processes and motivation (Birnberg et al., 2007; Hall, 2016; Wibbeke & Lachmann, 2020) by illuminating the subjective aspects of motivation through a recognition-theoretic approach. Our investigation of the SmartCon case underscores the critical role that (mis)recognition within a PMS plays in influencing employee wellbeing, as evidenced by workers' reflections and behaviors. Consequently, a more nuanced understanding of PMS characteristics and use can help explain why these control systems might not achieve their intended objectives (e.g., higher motivation and commitment to the organization). In this discussion, we further develop and situate our findings within two bodies of literature—management control and psychological processes and behavior—elaborating on our contributions to each domain. To do so, we propose ten propositions that build upon these findings and further elucidate the relationships between PMS, perceptions of recognition, employee wellbeing, and motivation.

Numerous propositions elucidate the characteristics (e.g., quantification mechanisms or formality) and use (e.g., providing extensive qualitative feedback to improve employees' competencies and skills) of PMSs that have the potential to impact the balance between different types of recognition (Honneth, 1995; 2010; Tweedie, et al., 2019), as perceived by employees, with consequential effects on their wellbeing. Therefore, we present our first proposition that addresses the relationship between PMSs and recognition dynamics:

Proposition 1: The design and use of PMSs influence recognition dynamics within an organization, shaping employees' perceptions of both tangible and intangible aspects of recognition.

Perceptions of tangible and intangible recognition aspects are fostered through extrinsic and intrinsic rewards. However, the relationship between PMS characteristics, such as performance evaluation criteria (Jordan & Messner, 2012), forced rating systems (Cardinaels & Fetcher, 2021), and subjective evaluations (Dai et al., 2018), and these perceptions remains unclear. Therefore, we propose two propositions that explore the recognition dynamics encouraged (or denied) through PMS characteristics and use. These propositions differentiate between tangible and intangible aspects of recognition and highlight specific ways in which different PMS characteristics may affect these tangible and intangible aspects of recognition differently:

Proposition 2: The effectiveness of a PMS in promoting intangible aspects of recognition depends on its ability to provide meaningful feedback and foster personal growth, to foster work-related self-esteem, respect for employees' unique contributions, and feelings of attachment and relatedness to the organization.

Proposition 3. Tangible recognition aspects, fostered through extrinsic rewards such as bonuses and promotions, influence perceptions of fairness, which are linked to aspects of esteem and respect.

Our investigation of the SmartCon case allowed us to deeply examine participants' perceptions of how the new PMS functioned compared to the previous system. By analyzing employees' interpretations of how the previous system highlighted key recognition aspects, we discovered that both tangible and intangible recognition were perceived as 'balanced,' and that this

fostered feelings of attachment to the firm, feelings of fairness (Burney & Widener, 2007), and positive emotions. These factors are collectively associated with wellbeing (Diener et al., 1999; Reppenning et al., 2021; Erickson et al., 2022). Thus, intangible and tangible recognitions are not mutually exclusive but rather complement and reinforce each other. In alignment with the literature on meaningful work and worker contributions (Beer, et al., 2022; Kubiak, 2022) we propose:

Proposition 4: A PMS that emphasizes both intangible and tangible aspects of recognition contributes to employee wellbeing, motivation, commitment, job satisfaction, and perceptions of fairness within the organization.

Our study of the transition between two PMSs revealed how the new, more formal, and quantitative PMS has shifted the balance among different types of recognition (Honneth, 1995; 2010) and the resulting effects of these shifts on employees' perceptions of recognition preferences. We argue that the firm's recognition priorities may shape employees' recognition priorities, leading to shifts from intangible to tangible recognition or vice versa. These shifts hold significant implications for employee wellbeing, particularly as they offer an arena for competing logics to emerge (Chenhall et al., 2013). In response to these different logics, employees may counter them by adjusting their preferences to align with the firm's recognition priorities as reflected in the PMS. Consequently, we present two propositions that illuminate the consequences of such shifts in recognition priorities on employees' perceptions of recognition:

Proposition 5: A PMS that emphasizes intangible elements of recognition shifts employees' focus and priority from tangible elements to intangible elements of recognition.

Proposition 6: A PMS that emphasizes tangible elements of recognition shifts employees' focus and priority from intangible elements to tangible elements of recognition.

Building on insights from Dejours (2012; Dejours et al., 2018) and Honneth (2007), as well as the assumption that accounting tools affect individuals' emotional connection to institutions (Boedker & Chua, 2013), we examined the roles of intangible and tangible recognition in a PMS

designed with formality and quantification principles. This approach offers a novel explanation for why individuals with perspectives on evaluation principles that differ from those proposed by the PMS display specific positive or negative reactions (Chenhall et al., 2013). Our findings indicate that it is not solely the focus on performance ‘quantity’ and the inherent simplification of ‘reality’ (Robson, 1992; Bowker & Star, 2000; Mennicken & Espeland, 2019) or the subjectivity of performance evaluation (e.g., Buckingham & Goodall, 2015) that triggers negative feelings, but also how these PMS characteristics acknowledge or neglect aspects of individuals’ work and contributions they deem important, which significantly influences wellbeing. In the SmartCon case, the new PMS failed to recognize employees’ value and contributions, leading to negative impacts on wellbeing, increased frustration, and heightened feelings of invisibility, ultimately weakening workers’ connections to the organization. Differentiating between intangible and tangible dimensions of recognition enables us to pinpoint recognition-related aspects that, as illustrated in the case, can elucidate key aspects of intrinsic or extrinsic motivation through critical PMS characteristics, such as quantification and ‘forced’ rating mechanisms. These mechanisms are shown to affect employees’ emotional spheres (Cardinaels & Fetcher, 2021) and may also lead to neglecting employees’ long-term vision of themselves. Therefore, we propose:

***Proposition 7:** Overemphasis on past performance and quantifiable metrics in a PMS may shift attention away from employees’ future potential and development, consequently restricting opportunities for growth and advancement. This diminishes the perception of intangible recognition aspects, such as love, esteem, and respect.*

***Proposition 8:** Diminishing the aspects of love, esteem, and respect in the recognition process can reduce employees’ perceptions of the effectiveness of a PMS, ultimately leading to reduced wellbeing and negative effects on employees’ motivation.*

Existing literature demonstrates that the connection between performance measurement and rewards can influence an individual’s perception of fairness (Burney & Widener, 2007), and forced ratings negatively affect the stress levels of employees subjected to these ratings (Cardinaels & Fetcher, 2021). Simultaneously, ratings and performance evaluation, in general, are linked to how an individual perceives their growth within an organization. We aim to clarify how a PMS can elicit

feelings of commitment and wellbeing connected to an individual's long-term perspective of themselves, which are both related to intangible and tangible recognition clusters. We seek to uncover the underlying recognition mechanisms behind these causal relationships by proposing the final propositions of our work, which further emphasize the distinctions between the different aspects of recognition and their impact on employee experiences:

Proposition 9: Employees' trust in the fairness and transparency of a PMS is instrumental for fostering a positive perception of tangible and intangible aspects of recognition.

Proposition 10: The extent to which a PMS provides opportunities for employee development and growth, such as training, mentoring, and career advancement, can impact their long-term commitment and wellbeing with the organization.

The propositions we introduced and explored not only offer an understanding of specific elements of this multifaceted interaction but also probe how PMS interrelates with complex self-reflections, encompassing various and frequently conflicting recognition principles. While employees desiring recognition may appear self-evident, the distinct organizational and cultural environment of SmartCon, characterized by a rapid growth and new and more formal rules, provided a unique context that enabled us to examine how recognition is perceived and valued by workers, thus clarifying perceptions of organizational logics triggered by the new PMS (Faÿ, et al., 2010).

In the context of the recognition shift, our study explores two interlinked theoretical trajectories, which form the main contributions of our work. First, we investigate the potential constraints of formal, quantitatively-based PMS in restricting or diminishing intangible recognition while primarily concentrating on tangible recognition. In doing so, we analyzed the shift on employees' recognition preferences and requirements, and the subsequent effect on motivation and commitment to the firm. Our research on recognition aims to improve understanding of the dynamics driving motivation by examining how the PMS exposes the interrelationship between intangible recognition, such as love, esteem, and respect, and tangible recognition, like extrinsic rewards and

feelings of professional growth. This exploration allows for a more nuanced understanding of how these aspects of recognition may contribute to employees' motivation and overall wellbeing.

Second, drawing on previous literature that investigates the influence of accounting instruments on individuals' experiences (Mahlendorf et al., 2014; Reppenning et al., 2021; Erickson et al., 2022) and the function of accounting practices in managing competing interests (Chenhall et al., 2013), we suggest recognition theory as a potentially valuable perspective to better understand employees' subjective experiences and inclinations in response to PMSs. We posit that individuals' perceptions of a PMS could be affected by the way in which the system highlights recognition demands, which might account for motivation and behavior. In this vein, we contend that motivation stems from how the PMS illuminates and values intangible and tangible recognition aspects. By underscoring the significance of recognition in shaping employees' experiences, motivation, and commitment to the organization, our research adds to the knowledge of how PMS design and utilization might affect individuals' psychological states and processes (Hall, 2008, 2016; Marginson et al., 2014; Van der Kolk & Kaufmann, 2018) and provides insights that could guide decision-making, given the diverse ways employees perceive and engage with these systems via feelings of recognition (Honneth, 1995; 2010).

4.7. Conclusions

The purpose of this research was to investigate how PMS operates in (mis)recognizing employees' worth and contributions and how this impacts their wellbeing and behavior. Our findings revealed that intangible and tangible recognitions are not mutually exclusive but rather complement and reinforce each other, with their prioritization differing between the firm and its employees. If employees and the firm both prioritize the same recognition cluster, employees are more likely to express positive wellbeing and motivation in the workplace. The findings also highlight practical implications for organizations that make extensive use of PMS, emphasizing the importance of

addressing both intangible and tangible aspects of recognition to avoid negative consequences for employees and the organization.

Rather than suggesting that PMS should be ‘abandoned’ due to negative reactions, as some scholars in other disciplines have argued (e.g., Murphy, 2020), our research implies that it is the way in which PMS characteristics emphasize key recognition aspects that should be closely examined. The imbalances between the two identified recognition types on employees’ perceptions of recognition, exacerbated by their misalignments, might explain why managerial intentions and employee perceptions of the same controls might differ (Tessier & Otley, 2012). This insight highlights the importance of understanding the potential misalignments between management’s objectives and employees’ perceptions when designing and implementing a PMS, ensuring that the system effectively fosters the desired recognition dynamics.

Our findings should be considered within the context of the limitations of our research method. First, our study was conducted during the emergence of the COVID-19 pandemic. While these work conditions may have amplified certain (negative) feelings we documented, employees had the option to work from home or in the office during our interviews. Second, our qualitative evidence provided deeper insights into the motivations and emotions of interviewees but limited our ability to make definitive, generalizable claims about causality. Although the case study approach limits generalizability, it offers valuable in-depth insights into participants’ subjective experiences with both the old and new PMSs (see Lukka, 2014). More broadly, it is important to acknowledge that subjects’ narrations can only offer partial insights into the factors shaping their self-interpretations. Finally, recall bias may present another limitation of our study, as we rely on participants’ recollections of the previous PMS. However, we minimized the risk of biased data by cross-referencing key viewpoints among employees with similar tenures. Additionally, we had access to both the initial PMS and the new one, allowing us to corroborate essential perspectives on the PMS’s functionality in the past.

Future research can further explore or test the relationships we propose here, for instance by analyzing how various types (e.g. formal vs informal) and use impact individuals’ perception of

Gianluca F. Delfino

recognition, and how this translates into specific beliefs and behaviors. Bringing in more fine-grained analyses of the psychological micro-processes at the individual level that underlie those effects has the potential to enhance our understanding of how such effects come about (cf. Hall, 2016). We hope our study enables future research towards this end.

4.8. References

- Alvesson, M., & Kärreman, D. (2004). Interfaces of control. Technocratic and socio-ideological control in a global management consultancy firm. *Accounting, Organizations and Society*, 29 (3-4), 423-444.
- Bedford, D. S., Bisbe, J., & Sweeny, B. (2019). Performance measurement systems as generators of cognitive conflict in ambidextrous firms. *Accounting, Organizations and Society*. 72. 21-37.
- Beer, H., Micheli, P., and Besharov, M. (2022). Meaning, mission, and measurement: How organizational performance measurement shapes perceptions of work as worthy. *Academy of Management Journal*. 65(6). In press.
- Bedford, D. S., Speklè, R. F., & Widener, S. K. (2022). Budgeting and employee stress in times of crisis: Evidence from the Covid-19 pandemic. *Accounting, Organizations and Society*. In press.
- Bloomfield, B., & Danieli, A. (1995). The role of management consultants in the development of information technology: the indissoluble nature of socio-political and technical skills. *Journal of Management Studies*, 32 (1), 23-46.
- Boedker, C., and Chua, W. F. (2013). Accounting as an affective technology: A study of circulation, agency and entrancement. *Accounting, Organizations and Society*. 38. 245-268.
- Bowker, G. C. & Star, S.L. (2000). *Sorting things out*. MIT Press, Cambridge, Massachusetts.
- Birnberg, J. G., Luft, J., and Shields, M. D. (2006). Psychology theory in management accounting research. In: Chapman, C. S., Hopwood, A.G., Shields (eds) *Handbook of Management Accounting Research*. Elsevier.
- Buckingham, M., & Goodall, A. (2015). Reinventing performance management. *Harvard Business Review*, 93(4): 40–50.
- Burney, L., & Widener, S. K. (2007). Strategic performance measurement systems, job-relevant information, and managerial behavioral responses: Role stress and performance. *Behavioral Research in Accounting* , 19 (1), 43-69.
- Caicedo, M. H., Martensson, M., & Roslender, R. (2010). Managing and measuring employee health and wellbeing: A review and critique. *Journal of Accounting & Organizational Change*. 4(6), 436-459.
- Capelli, P., & Tavis, A. (2016). The performance management revolution. *Harvard Business Review*,94(10): 58–67.
- Cardinaels, E., & Feichter, C. (2021). Forced rating systems from employee supervisor perspectives. *Journal of Accounting Research*, 59(5), 1573-1607.
- Chenhall, R. H. (2003). Management control systems design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28, 127–168.
- Chenhall, R. H., Hall, M., & Smith, D. (2013). Performance measurement, modes of evaluation and the development of compromising accounts. *Accounting, Organizations and Society*, 38(4), 268-287.
- Chenhall, R. H., Hall, M. , & Smith, D. (2017). The expressive role of performance measurement systems: a field study of a mental health development project. *Accounting, Organizations and Society*. 63. 60-75.
- Covaleski, M.A., & Dirsmirth, M.W. (1990). Dialectic tension, double reflexivity and the everyday accounting researcher: On using qualitative methods. *Accounting, Organizations and Society*, 15(6), 543 – 547.
- Crang, M. (1997). Analysing qualitative materials. In: Flowerdew R., and Martin, D. (Eds), *Methods in Human Geography*, Addison Wesley Longman, London, 183-196.
- Dai, N. T., Kuang, X. J., & Tang, G. (2018). Differential weighting of objective versus subjective measures in performance evaluation: Experimental evidence. *European Accounting Review*. 27(1). 129-148.

- De Baerdemaeker, J., & Bruggeman, W. (2015). The impact of participation in strategic planning on managers' creation of budgetary slack: the mediating role of autonomous motivation and affective organisational commitment. *Management Accounting Research*, 29, 1–12.
- Dejours, C. (2007). Subjectivity, work, and action. In J. Deranty, D. Petherbridge, J. Rundell, & R. Sinnerbrink, *Recognition, Work, Politics: New Directions in French Critical Theory*. Leiden: Brill. 71-87.
- Dejours, C., & Bègue, F. (2009). *Suicide et travail: que faire?* Paris: Presses universitaires de France
- Dejours, C. (2012). From psychopathology to psychodynamics of work. In Smith, N. and Deranty, J.-P. (eds), *New Philosophies of Labour*. Leiden: Brill, 209–250.
- Dejours, C. (2014). Work and self-development: The point of view of the psychodynamics of work. *Critical Horizons*, 15(2), 115-130.
- Dejours, C., Deranty, J.-P., Renault, E., & Smith, N. H. (2018). *The Return of Work in Critical Theory*. New York: Columbia University Press
- Delfino, G. F., & Van der Kolk, B. (2021). Remote working, management control changes and employee responses during the COVID-19 crisis. *Accounting, Auditing and Accountability Journal*, 34(6), 1376-1387.
- Deranty, J. P. (2016). Between Honneth and Rancière: problems and potentials of a contemporary critical theory of society. In A. Honneth, J. Rancière, K. Genel, & J-P. Deranty (Eds.), *Recognition or disagreement: a critical encounter on the politics of freedom, equality, and identity* (pp. 33-80). (New directions in critical theory). Columbia University Press.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276-302.
- Eisenhardt, K.M., (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532–550
- Endrikat, J., Guenther, T. W., & Titus, R. (2020). Consequences of strategic performance measurement systems: A meta-analytic review. *Journal of Management Accounting Research*, 32(1), 103-136.
- Erickson, D., Holderness, D. K., Olsen, K. J., & Thronock, T. A. (2022). Feedback with feeling? How emotional language in feedback affects individual performance. *Accounting, Organizations and Society*, 99. 202205.
- Faj, E., Introna, L., and Puyou, F. (2010). Living with numbers: Accounting for subjectivity in/with management accounting systems, *Information and Organization*, (20)1, 21-43.
- Flick, U. (2019). *An Introduction to Qualitative Research (6th edn)*. Freie Universität Berlin, Germany.
- Franco-Santos, M., Lucianetti, L., & Bourne, M. (2012). Contemporary performance measurement systems: A review of their consequences and a framework for research. *Management Accounting Research*, 23(2), 79-119.
- Franco-santos, M., Stull, D., & Bourne, M. (2022). Performance management and well-being (In press). In: *Handbook on Management and Employment Practices*, Springer.
- Frimanson, L., Hornbach, J., & Hartmann, F. G. H. (2021). Performance evaluations and stress: Field evidence of the hormonal effects of evaluation frequency. *Accounting, Organizations and Society*, 95, In press
- Groen, B. A., Wouters, M. J., and Wilderom, C. P., (2017). Employee participation, performance metrics, and job performance: a survey study based on self-determination theory. *Management Accounting Research*, 36, 51–66.
- Hall, M. (2008). The effect of comprehensive performance measurement systems on role clarity, psychological empowerment and managerial performance. *Accounting, Organizations and Society*, 33 (2/3), 141-163.
- Hall, M. (2016). Realising the richness of psychology theory in contingency-based management accounting research. *Management Accounting Research*, 31, 63-74.

- Honneth, A. (1995). *The Struggle for Recognition: The Moral Grammar of Social Conflicts*. Cambridge: Polity Press.
- Honneth, A. (2007). Recognition as Ideology. In: Van den Brink, B. and Owen, D. *Recognition and Power: Axel Honneth and the Tradition of Critical Social Theory*. Cambridge University Press.
- Honneth, A. (2010). Work and recognition: a redefinition. In Schmit am Bush, H.C. and Zurn, C. (Eds), *The Philosophy of Recognition*. Lanham, MD: Lexington Books, 223–240.
- Hopwood, A. G. (1983). On trying to study accounting in the contexts in which it operates. *Accounting, Organizations and Society*. 8(2/3), 287-305.
- Humphrey, C. (2008). Auditing research: a review across the disciplinary divide. *Accounting, Auditing & Accountability Journal*, 21(2), 170-203.
- Ikäheimo, H., Lepold, K., & Stahl, T. (Eds.) (2021). *Recognition and Ambivalence*. Columbia University Press.
- Jordan, S., & Messner, M. (2012). Enabling control and the problem of incomplete performance indicators. *Accounting, Organizations and Society*. 37(8). 544-564.
- Kant, I. (2005). *Fundamental principles of the metaphysics of morals*. Dover Publications, New York.
- Klag, M., & Langley, A. (2013). Approaching the conceptual leap in qualitative research. *International Journal of Management Reviews*, 15, 149 – 166.
- Kominis, G., and Emmanuel, C. R. (2007). The expectancy–valence theory revisited: Developing an extended model of managerial motivation. *Management Accounting Research*.18(1): 49-75.
- Koufteros, X., Verghese, A., & Lucianetti, L. (2014). The effect of performance measurement systems on firm performance: A cross-sectional and a longitudinal study. *Journal of Operations Management*, 32, 313-336.
- Kraus, K., Kennergren, C., & von Unge, A. (2017). The interplay between ideological control and formal management control systems – A case study of a non-governmental organisation. *Accounting, Organizations and Society*, 63, 42–59.
- Kronberger, M., L. Justesen, & J. Mouritsen. (2011). ‘When you make manager, we put a big mountain in front of you’: An ethnography of managers in a Big 4 accounting firm. *Accounting, Organizations and Society*. 36(8). 514-533.
- Kubiak, E. (2022). Increasing perceived work meaningfulness by implementing psychological need-satisfying performance management practices. *Human Resource Management Review*. 32(3). *In press*.
- Kunz, J., and Linder, S. (2012) Organizational Control and Work Effort – Another Look at the Interplay of Rewards and Motivation, *European Accounting Review*, 21:3, 591-621.
- Lau, C. M., & Sholihin, M. (2005). Financial and nonfinancial performance measures: How do they affect job satisfaction? *The British Accounting Review*, 37(4): 389–413.
- Lukka, K. (2014). Exploring the possibilities for causal explanation in interpretive research. *Accounting, Organizations and Society*. 39(7). 559-566.
- Mahlendorf, M.D., Kleinschmit, F., and Perego, P. (2014). Relational effects of relative performance information: The role of professional identity. *Accounting, Organizations and Society*. 39(5). 331-347.
- Malmi, T., & Brown, D. A. (2008). Management control systems as a package–Opportunities, challenges and research directions. *Management Accounting Research*, 19, 287-300.
- Marginson, D., McAulay, L., Roush, M, and van Zijl, T. (2014). Examining a positive psychological role for performance measures. *Management Accounting Research*. 25(1): 63-75.
- Mennicken, A., & Espeland, W. (2019). Theorizing calculative practices: Disclosure and concealment in organizations and markets. *Academy of Management Annals*, 13(1), 337-365.
- Merchant, K.A. & van der Stede, W.A. (2007). *Management Control Systems*, Pearson Education Limited, Edinburgh Gate.
- Miller, P., and O’Leary, T. (1987). Accounting and the construction of the governable person. *Accounting Organization and Society*, 12(3). 235-265.

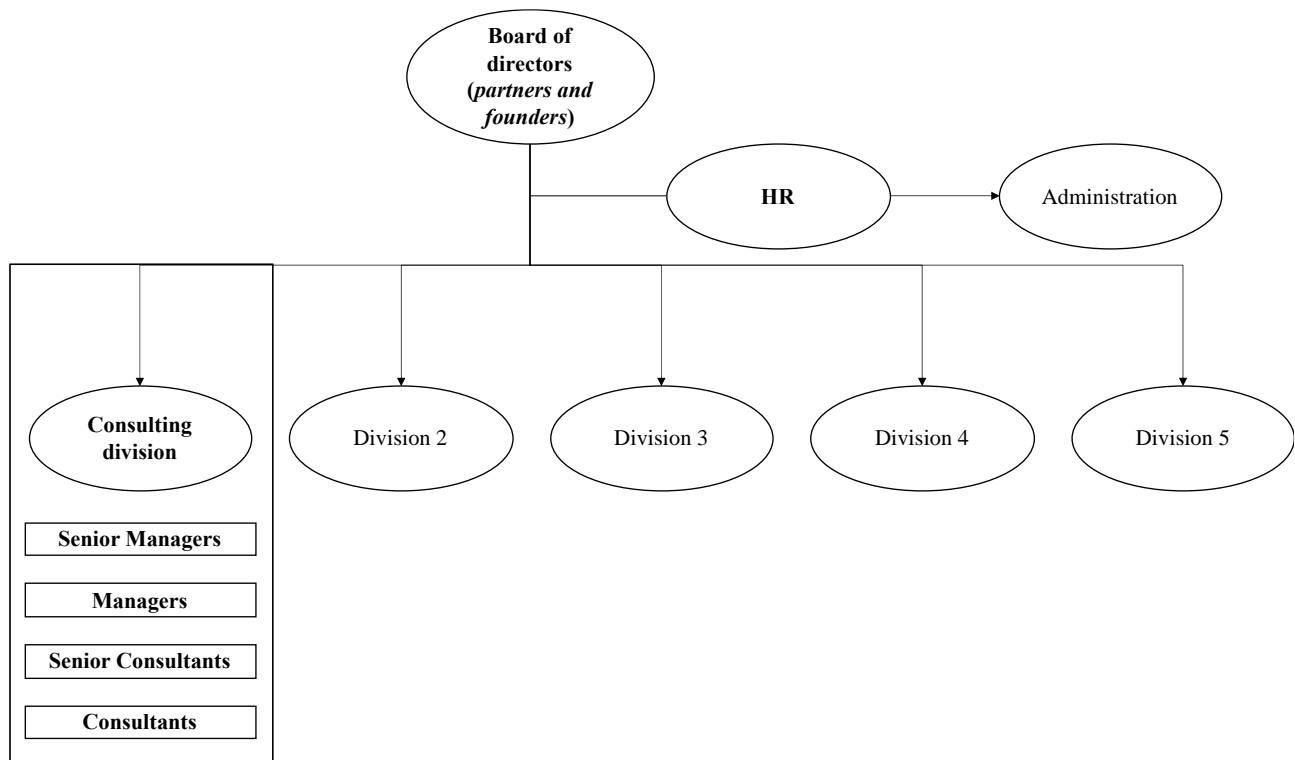
- Murphy, K. R., (2020). Performance evaluation will not die, but it should. *Human Resource Management Journal*. 30(1), 13–31.
- Petherbridge, D. (2011). Axel Honneth's project of critical theory. In Petherbridge, D. (ed.) *Axel Honneth's Critical Theory*. Brill.
- Pop-Vasileva, A., Baird, K., & Blair, B. (2011). University corporatisation: The effect on academic work-related attitudes. *Accounting, Auditing & Accountability Journal*, 24(4), 408-439.
- Presslee, A., Vance, T. W., Webb, R. A. (2013). The Effects of Reward Type on Employee Goal Setting, Goal Commitment, and Performance. *The Accounting Review*. 88 (5): 1805–1831.
- Repenning, N. Löhlein, L. & Schäffer, U. (2021). Emotions in Accounting: A review to bridge the paradigmatic divide. *European Accounting Review*, forthcoming.
- Rapporto Assoconsult (2020) 'Osservatorio management consulting in Italia', available at: (accessed May, 26th 2021).
- Robson, K., (1992). Accounting numbers as 'inscription': Action at a distance and the development of accounting. *Accounting, Organizations and Society*, 17, 685-708.
- Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior*. 30, 91–127.
- Scott, M. C. (1998). *The intellect industry: Profiting and learning from professional service firms*. New York: John Wiley & Sons.
- Simons, R. (1995). *Levers of control: How managers use innovative control systems to drive strategic renewal*. USA: Harvard Business School Press.
- Tessier, S. & Otley, D. (2012). A conceptual development of Simons' Levers of control framework, *Management Accounting Research*, 23(3). 171-185.
- Tweedie, D., Wild, D., Rhodes, C., & Martinov-Bennie, N. (2019). How does performance management affect workers? Beyond human resource management and its critique. *International Journal of Management Reviews*, 21, 76-96.
- Van der Kolk, B., & Kaufmann, W. (2018). Performance measurement, cognitive dissonance and coping strategies: Exploring individual responses to NPM-Inspired Output Control. *Journal of Management Control*, 29(2), 93-113.
- Van der Hauwaert, E., Hoozée, S., Maussen, S., and Bruggeman, W. (2022). The impact of enabling performance measurement on managers' autonomous work motivation and performance. *Management Accounting Research*. In press.
- Verbeeten, F.H.M., & Speklè, R.F. (2015). Management control, results-oriented culture and public sector performance: Empirical evidence on new public management. *Organization Studies*, 36(7), 953-978.
- Voswinkel, S. (2012). *Admiration without appreciation? The paradoxes of recognition of doubly subjectivised work*. In N.H. Smith and J-P Deranty (eds), *New Philosophies of Labour*. Leiden: Brill, pp. 273– 300.
- Wibbeke, L. M., & Lachmann, M., (2020). Psychology in management accounting and control research: an overview of the recent literature. *Journal of Management Control*. 31, 275–328.

4.9. Appendixes

Appendix I Participants and Role

Interviewees	Role	Gender	Date
Founder_1	Founder & CEO	M	21/07/21
Founder_2	Founder	M	16/07/21
Partner_1	Partner	M	04/07/21
Partner_2		M	05/07/21
Partner_3		M	30/06/21
Senior Manager_1	Senior Manager	M	28/04/21
Senior Manager_2		F	12/07/21
Manager_1	Manager	M	29/06/21
Manager_2		M	25/09/21
Manager_3		M	25/06/21
Manager_4		M	02/07/21
Manager_5		F	02/07/21
Manager_6		M	08/07/21
Manager_7		F	09/07/21
Scenior Consultant_1		Senior Consultant	M
Scenior Consultant_2	M		18/06/21
Scenior Consultant_3	M		20/04/21
Scenior Consultant_4	M		15/06/21
Scenior Consultant_5	M		22/06/21
Scenior Consultant_6	F		19/10/21
Scenior Consultant_7	F		08/10/21
Scenior Consultant_8	M		15/10/21
Consultant_1	Consultant	M	08/07/21
Consultant_2		M	11/07/21
Consultant_3		M	14/07/21
Consultant_4		M	08/10/21
Consultant_5		M	28/09/21
Consultant_6		M	27/09/21
Consultant_7		F	01/10/21
Consultant_8		M	28/09/21
Consultant_9		F	15/10/21
Former Employee_1	Former Employees	M	23/09/21
Former Employee_2		M	14/10/21
HR	HR Manager	F	07/06/21

Appendix II SmartCon's Organigram



Appendix III
(Senior) Consultants' Performance Elements

Technical Skills	Work Attitude	Efficiency of Communication
Business know-how Pace of information processing Problem (de)structuring Solution identification Mastery of consulting kit	Personal organization Time management Proactivity Comfort with uncertainty Capability for "lateral thinking"	Listening Persuasion (written & oral) Assertiveness Clarity and concision Non-verbal communication
Team working & co-working	Client management	Personal ethics
Team norming & organization Team facilitation Constructivism Conflict management "Extended team" view	Fit with client's environment / culture Attention to client's needs Continuous relationship enhancement Management of adverse situation (Un)formal situation adaptability	Professionalism Reliability & trustworthiness Sense of initiative Active participation at corporate events Respect of corporate regulation

Appendix IV
(Senior) Managers' Performance Elements

Managers' KPIs					
Problem solving	Project management & coaching	Leadership	Team motivation	Managing the consultants' feedback	Managing team meetings
Managing exceptions	Communication skills	Formation of internal resources	Client relationship	Commercial and marketing opportunities	Managing the income statement

Appendix V
Example of a Section of a Performance Evaluation Sheet

Performance Metrics	ASSESSMENT RESULTS		
	Auto Assessment		Evaluator Assessment
TECHNICAL SKILLS			
Business Know-how	Over-Performance	😊😊😊	😊 On track
Pace of Information Processing	On track	😊	😊😊😊 Over Performance
Problem (De)Structuring	On track	😊	😊 On track
Solution Identification	Over Performance	😊😊😊	😊 On track
Mastery of Consulting Kit	Star	★	😊😊😊 Over Performance

Legend	
Under-Performance	😞
On track	😊
Over-Performance	😊😊😊
Star	★

This page has been left blank on purpose

4. Third Chapter

The Attention-Directing Role of Operating Risk in Managerial Project Selection Decisions

Abstract

This study investigates the impact of operating risk information, specifically the degree of operating leverage (DOL) and margin of safety (MS) of a project, on project selection decisions. Drawing on attention theory, we hypothesize and test the influence of these measures of operating risk on managerial decision-making in project selection. In a multi-decision experiment, we ask MBA students to choose among three mutually exclusive projects with different cost structures and levels of operating risk, while manipulating the availability of operating risk information. Our results reveal a significant influence of DOL/MS information on project selection, consistent with our predictions. When DOL/MS information is presented alongside accounting information, managers tend to select projects with lower operating risk, even after controlling for individual characteristics and project accounting performance. Specifically, we find that the frequency of choice for the riskiest (or more volatile and profitable) projects decreases by 28% when DOL/MS information is visible. These findings contribute to the management accounting literature by suggesting that the income statement information alone may not be sufficient to emphasize managerial awareness of risk-taking and risk exposure. Our study emphasizes the importance of considering operating risk from an ‘internal’ perspective and suggests that this information should be taken into account when making capital allocation, budgeting, and operating decisions, particularly in conjunction with performance incentives. The practical implications of our research highlight the value of incorporating operating risk information in project selection and risk management. Moreover, our research sets the stage for future studies to further investigate the influence of operating risk information on various aspects of managerial decision-making.

Keywords: attention · operating risk · degree of operating leverage · managerial decision making · risky choice · project selection · experiment

4.1. Abstract, Introduction, and Conclusions in Spanish Language

Abstracto

Este estudio investiga el impacto de la información sobre el riesgo operativo, específicamente el grado de apalancamiento operativo (DOL) y el margen de seguridad (MS) de un proyecto, en las decisiones de selección de proyectos. Basándonos en la teoría de la atención, hipotetizamos y probamos la influencia de estas medidas de riesgo operativo en la toma de decisiones gerenciales en la selección de proyectos. En un experimento de toma de decisiones múltiple, pedimos a estudiantes de MBA que elijan entre tres proyectos mutuamente excluyentes con diferentes estructuras de costos y niveles de riesgo operativo, mientras manipulamos la disponibilidad de información sobre el riesgo operativo. Nuestros resultados revelan una influencia significativa de la información DOL/MS en la selección de proyectos, consistente con nuestras predicciones. Cuando la información DOL/MS se presenta junto con la información contable, los gerentes tienden a seleccionar proyectos con menor riesgo operativo, incluso después de controlar las características individuales y el rendimiento contable del proyecto. Específicamente, encontramos que la frecuencia de elección de los proyectos más riesgosos (o más volátiles y rentables) disminuye en un 28% cuando la información DOL/MS es visible. Estos hallazgos contribuyen a la literatura de contabilidad gerencial al sugerir que la información de la cuenta de resultados por sí sola puede no ser suficiente para enfatizar la conciencia gerencial sobre la asunción de riesgos y la exposición al riesgo. Nuestro estudio enfatiza la importancia de considerar el riesgo operativo desde una perspectiva 'interna' y sugiere que esta información debe tenerse en cuenta al tomar decisiones de asignación de capital, presupuesto y operativas, particularmente en conjunto con incentivos de rendimiento. Las implicaciones prácticas de nuestra investigación resaltan el valor de incorporar información sobre el riesgo operativo en la selección de proyectos y la gestión de riesgos. Además, nuestra investigación sienta las bases para futuros estudios que investiguen más a fondo la influencia de la información sobre el riesgo operativo en varios aspectos de la toma de decisiones gerenciales.

Introducción

Los académicos de administración y contabilidad están cada vez más preocupados por entender cómo los gerentes toman decisiones y cómo el riesgo, la incertidumbre y los incentivos afectan las elecciones estratégicas (Weber y Milliman, 1997; Shapira y Shaver, 2014; Brügggen y Luft, 2016; Posch, 2020). Las decisiones de inversión y asignación de capital, como lanzar nuevos productos, ingresar a nuevos mercados e incluso adquirir empresas o activos no tienen resultados claros. Los gerentes utilizan información contable para pronosticar el desempeño económico futuro de su centro de ganancias y estimar objetivos futuros (por ejemplo, ventas objetivo, beneficio objetivo). Participan en pronósticos y análisis de costo-beneficio junto con evaluaciones de riesgo y volatilidad, ya que tales consideraciones contribuyen a estimaciones más confiables del estado futuro de la empresa (Grafton et al., 2010). Estas prácticas permiten a los gerentes evaluar el impacto de posibles inversiones antes de comprometerse con un curso de acción específico (Moreno et al., 2002; Sprinkle, 2003; Verbeeten, 2006).

Dado el papel crítico de estas prácticas en la toma de decisiones estratégicas, planificación, pronósticos y evaluaciones de riesgo, la información contable a menudo se utiliza para facilitar la toma de decisiones (Sprinkle y Williamson, 2006; Tekathen y Dechow, 2020). Entre los factores clave considerados en este proceso se encuentra el riesgo operativo, que se calcula como el grado de apalancamiento operativo (DOL) y el margen de seguridad (MS) de una inversión (Horngren et al., 2012). El riesgo operativo depende de combinaciones específicas de costos fijos y variables, que abarcan una amplia gama de decisiones de inversión y operativas. Estudios anteriores en finanzas han demostrado que una amplia gama de factores a nivel de empresa, incluida la volatilidad del patrimonio (Lord, 1996), la prima de capital (Novy-Marx, 2011; Ozdagli, 2012), el costo del capital (Chen, Kacperczyk y Ortiz-Molina, 2011) y el apalancamiento financiero (Chen et al., 2019), están relacionados con el riesgo operativo. Esta literatura ofrece evidencia convincente de que los inversionistas tienen en cuenta el riesgo operativo al valorar los activos (Banker, et al., 2018). En el ámbito de la contabilidad, los investigadores muestran que los gerentes ajustan su estructura de costos en respuesta a factores exógenos, como shocks de demanda, regulaciones laborales y decisiones estratégicas de competidores (Anderson et al., 2003; Kallapur y Eldenburg, 2005; Simintzi, et al., 2014; Holzhaecker et al., 2015; Aboody et al., 2018). Sin embargo, si los gerentes consideran el riesgo operativo antes de la selección del proyecto, incluidas las decisiones de creación de capacidad e inversión, sigue siendo una pregunta abierta. El estudio de si la información sobre el riesgo operativo afecta la toma de decisiones de los gerentes contribuye a una mejor comprensión de por qué las empresas tienen diferentes potenciales de riesgo y rentabilidad.

Abordando la necesidad de investigaciones más profundas sobre medidas de riesgo y su influencia en la toma de decisiones gerenciales (Van der Stede, 2011; Kaplan y Mikes, 2016), nuestro trabajo estudia el papel de la información sobre riesgos operativos en la selección de proyectos. Transmitido a través de estados de resultados de costos variables, el riesgo operativo está entrelazado con la estructura de costos o la proporción de márgenes de estados de resultados (por ejemplo, CM/EBIT). Esto lleva a una pregunta crucial: al elegir proyectos basados en indicadores de desempeño del estado de resultados, ¿los gerentes integran consideraciones de riesgo operativo en sus preferencias? Si los gerentes ya tienen en cuenta la información de riesgo al formar preferencias sobre proyectos de mayor/menor riesgo, podrían considerar la información de riesgo MS/DOL como redundante. Por el contrario, si la información explícita de riesgo DOL/MS afecta las preferencias gerenciales, indica que la información contable por sí sola podría ser insuficiente para moldear las preferencias con respecto a proyectos de mayor/menor volatilidad. En este caso, la información sobre riesgos operativos podría desempeñar un papel crucial en el proceso cognitivo de formación de preferencias. Investigaciones anteriores en este sentido han argumentado la importancia de mejorar la conciencia de riesgos a través de controles relacionados con riesgos (Hall et al., 2015; Braumann, 2018).

Basándonos en la teoría de la atención (Posner et al., 2004; Ocasio, 2011; Helfat y Peteraf, 2015) y los hallazgos de la literatura previa sobre riesgo y toma de decisiones (March y Shapira, 1992; Mikes, 2011), predecimos que la información sobre riesgos operativos ayuda a las preferencias cognitivas gerenciales en las decisiones de selección de proyectos. En dos experimentos, probamos varias hipótesis sobre el impacto de la información sobre riesgos operativos en la elección riesgosa de los gerentes. En estos experimentos, los participantes del MBA eligen uno de los tres proyectos mutuamente excluyentes (Proyecto A, B o C). En la condición de línea de base, los proyectos tienen ventas y EBIT idénticos pero difieren en sus márgenes de contribución, y por lo tanto tienen diferentes estructuras de costos, de proporciones de costo fijo a variable. Por lo tanto, para cada tarea de decisión, las proporciones de costo fijo a variable de los proyectos se pueden clasificar en la proporción más baja, intermedia y más alta de costo fijo a variable. Dado que los tres proyectos generan el mismo EBIT, el proyecto con el margen de contribución más alto también tiene los costos fijos más altos, por lo tanto, el riesgo operativo más alto. Por lo tanto, elegir entre proyectos requiere un intercambio entre riesgo y contribución: alto riesgo para márgenes de contribución altos. La información contable (es decir, estado de resultados) permite a los participantes inferir información sobre riesgos operativos, pero esta no se indica explícitamente. Si un gerente deriva la información de riesgo operativo de los estados de resultados de los proyectos, por ejemplo, comparando las proporciones de costos fijos y variables de proyectos en competencia, y si incluye dicha información

en la selección del proyecto, es el enfoque de nuestra investigación experimental. Los participantes se asignan aleatoriamente a dos condiciones experimentales, en las que manipulamos la disponibilidad de información explícita sobre riesgos operativos. Un grupo está expuesto solo a la información del estado de resultados y el otro grupo está expuesto a información explícita sobre riesgos operativos (junto con la información del estado de resultados/contabilidad). En otra ronda de tareas de decisión, los participantes cambian de condiciones: respectivamente agregamos/omitimos la información sobre riesgos operativos para entender si dicha información es ‘persistente’ en las decisiones de selección de proyectos.

El estudio revela que el rendimiento contable (medido por EBIT, ROS y/o ventas) y la información sobre riesgos operativos afectan conjuntamente las decisiones de selección de proyectos, destacando la importancia de considerar ambos tipos de información en el proceso de toma de decisiones. En ausencia de información explícita sobre riesgos operativos, los participantes tendían a seleccionar proyectos más riesgosos, incentivados principalmente por los indicadores de rendimiento contable. Sin embargo, nuestro estudio reveló que las preferencias de los participantes se inclinaron hacia proyectos con niveles más bajos de riesgo operativo (y menor rendimiento contable) cuando se les proporcionó información explícita sobre riesgos operativos. Esto resalta el impacto conjunto significativo de la información de riesgo y el rendimiento contable en sus resultados de toma de decisiones. Específicamente, la frecuencia de elección de los proyectos más riesgosos disminuyó en un 28% cuando los participantes tuvieron acceso a información DOL/MS. La solidez de estos hallazgos se demostró mediante estímulos experimentales que incluían manipulaciones de ventas, niveles de EBIT y la magnitud de los resultados del proyecto. Además, los resultados siguieron siendo significativos incluso cuando se controlaron los efectos de orden y las características individuales, como la actitud ante el riesgo, la edad y el género. El estudio enfatiza la importancia de comprender la influencia combinada de la información explícita sobre riesgos operativos y el rendimiento contable al dirigir la atención gerencial a las dimensiones de riesgo y rentabilidad al formar preferencias de proyectos. Al incorporar información sobre riesgos operativos junto con medidas ‘objetivas’ de rendimiento contable, los tomadores de decisiones pueden tomar decisiones estratégicas más informadas, como la selección de proyectos, la asignación de capital y la construcción de capacidad. Nuestro estudio aporta las siguientes contribuciones a las literaturas de contabilidad gerencial y riesgo operativo. En primer lugar, proporcionamos nueva evidencia sobre el papel de la información contable en la toma de decisiones gerenciales (March, 1986; Hall, 2010) y el riesgo empresarial (Mikes, 2011; Van der Stede, 2011; Posch, 2020) al mostrar que los gerentes utilizan información sobre riesgos operativos para tomar decisiones de selección de proyectos. Este hallazgo implica que la información de riesgo operativo puede respaldar las elecciones gerenciales al permitir que los

gerentes reconozcan cómo esas decisiones afectarían la volatilidad potencial de los resultados finales de la empresa. En este sentido, nuestros hallazgos también se relacionan con la literatura que estudia la relación entre la conciencia de riesgo y los resultados organizacionales (Hall, et al., 2015; Braumann, 2018), ya que prestar atención a la información de riesgo operativo tiene un impacto significativo en la toma de decisiones gerenciales.

En segundo lugar, nuestro estudio contribuye a la literatura sobre estructura de costos y consideraciones de riesgo operativo (Chen et al., 2019; Aboody et al., 2018; Bhojraj et al., 2021) al mostrar que un estado de resultados de margen de contribución puede no ser siempre adecuado para transmitir el riesgo operativo de los proyectos (es decir, volatilidad del resultado final). Por lo tanto, la información de riesgo operativo tiene un papel en dirigir la atención en el sentido de que influye en la cognición de los gerentes y en cómo equilibran la información a la que están expuestos (Sprinkle, 2003; Grafton et al., 2010). En general, nuestros hallazgos también son valiosos para los profesionales, en el sentido de que la información de riesgo operativo, además de la información contable, debe ser considerada al tomar decisiones de asignación de capital, presupuestación de capital u operativas. Las empresas pueden involucrarse en proyectos riesgosos porque no consideran las consecuencias negativas de una alta volatilidad de EBIT y un riesgo a la baja, como cuando las ventas realizadas son inferiores a las ventas esperadas. Del mismo modo, los gerentes pueden renunciar a proyectos rentables y oportunidades de construcción de capacidad más grandes porque se enfocan demasiado en el riesgo a la baja.

Conclusiones

La importancia de las decisiones gerenciales en los ajustes de la estructura de costos y el riesgo de la empresa está bien establecida (Aboody et al., 2018; Banker et al., 2018; Sprinkle, 2003; Van der Stede, 2011), sin embargo, hay evidencia limitada sobre la relación entre el riesgo operativo y la selección de proyectos. El riesgo operativo es importante debido a su asociación con características a nivel de empresa, como el apalancamiento financiero (Chen et al., 2019), la volatilidad del patrimonio (Lord, 1996), la prima de renta variable (Novy-Marx, 2011; Ozdagli, 2012) y el costo de la renta variable (Chen, Kacperczyk y Ortiz-Molina, 2011). La investigación existente sugiere en gran medida que los gerentes ajustan las estructuras de costos y el riesgo operativo en respuesta a shocks externos (Kallapur y Eldenburg, 2005; Simintzi et al., 2014; Holzhacker et al., 2015; Aboody et al., 2018). Sin embargo, el impacto de la información del riesgo operativo en las decisiones de estructura de costos sigue siendo incierto. Nuestro estudio llena este vacío investigando la influencia de la información de riesgo operativo y contable en las decisiones de selección de proyectos en un entorno controlado, profundizando nuestra comprensión de los factores que dan forma a las decisiones de estructura de

costos. Específicamente, analizamos el efecto de la información del riesgo operativo (en forma de DOL/MS) en la selección de proyectos. A partir de la teoría de la atención y la perspectiva basada en la atención de la empresa de Ocasio (1997; 2011), encontramos que la presencia (ausencia) de información de riesgo operativo reduce (aumenta) la frecuencia de elegir un proyecto con alto riesgo operativo. Este hallazgo se alinea con la literatura sobre el comportamiento y las preferencias de los gerentes en la toma de riesgos (Sprinkle, 2003; Van der Stede, 2011).

Nuestros resultados muestran que la información de riesgo operativo disminuye la frecuencia de la elección más arriesgada en un 28%, resaltando su importancia en la toma de decisiones gerenciales. Este hallazgo demuestra cómo la información del riesgo operativo dirige la atención de los gerentes hacia proyectos con medidas específicas de volatilidad y seguridad, influyendo finalmente en sus preferencias y llevando a un comportamiento de toma de riesgos más equilibrado en las decisiones de selección de proyectos. Nuestro estudio contribuye a la literatura examinando el papel de dirección de atención de la información de riesgo operativo en las decisiones de selección de proyectos, abordando una brecha en la comprensión actual de si la información de riesgo operativo en sí misma afecta las decisiones de estructura de costos. Estos resultados se suman a la literatura que investiga el papel de la información contable y el rendimiento (Banker et al., 2018; Bhojraj et al., 2021) al mostrar que el efecto de la información del riesgo operativo se debilita cuando el desempeño de proyectos mutuamente excluyentes varía, medido por indicadores comúnmente utilizados como ventas, margen de contribución y EBIT. Esto sugiere que los gerentes pueden dar mayor peso al rendimiento financiero en tales situaciones (Aboody et al., 2018). Cabe destacar que los incentivos basados en el rendimiento no contrarrestaron los efectos de la información del riesgo operativo, excepto en el bloque 4, donde el proyecto de mayor rendimiento también fue el menos riesgoso, eliminando el incentivo de rendimiento para asumir riesgos. Esta observación sugiere una interacción significativa entre la información del riesgo operativo y las medidas de rendimiento en la toma de decisiones durante la selección de proyectos. Basándonos en estos hallazgos, demostramos cómo la interacción entre los incentivos de rendimiento y la información del riesgo operativo da forma a las decisiones gerenciales, ofreciendo nuevos conocimientos sobre los factores que influyen en la estructura de costos y el riesgo de la empresa. Argumentamos que la prominencia del riesgo a la baja aumenta cuando los gerentes ven información explícita sobre el riesgo operativo, activando una formación de preferencia cognitiva hacia una opción específica (Helfat y Peteraf, 2015). Nuestro diseño experimental respalda esta explicación teórica.

En nuestro estudio, los gerentes podrían haber inferido la información del riesgo operativo que proporcionamos al interactuar con los números contables y calcular las fórmulas. Por ejemplo, durante la sesión de capacitación, los participantes podrían haber dividido el margen de contribución

(CM) por el EBIT de los tres proyectos. El hecho de que no consideraron el riesgo operativo respalda la idea de que los gerentes equilibran solo las variables a las que están expuestos en sus decisiones (Sprinkle, 2003; Grafton et al., 2010). Aunque los efectos de reacción y comportamiento son comunes en los experimentos de información, nuestros resultados muestran que la influencia de la información del riesgo operativo es específica del contexto y no persistente. Los participantes reaccionan a dicha información localmente sin mostrar efectos de aprendizaje a medida que avanzan en las tareas de decisión. En consecuencia, eliminar la información de riesgo imita el comportamiento de los participantes que nunca estuvieron expuestos a dicha información en primer lugar.

Nuestro estudio sobre la información del riesgo operativo aborda llamados recientes para más investigaciones sobre la relación entre la toma de decisiones gerenciales, la estructura de costos y el riesgo operativo (Chen et al., 2019; Aboody et al., 2018; Banker et al., 2018; Bhojraj et al., 2021). Si bien la información de la estructura de costos puede proporcionar información sobre las consideraciones de elasticidad de costos, es posible que no siempre sea suficiente para formar preferencias hacia resultados específicos de volatilidad. El riesgo operativo ha sido estudiado ampliamente en el dominio de las finanzas desde el artículo seminal de Lev en 1974, con un creciente interés en la literatura contable. Estudios recientes, como Aboody et al. (2018) y Banker et al. (2018), muestran que los gerentes ajustan sus estructuras de costos y riesgos operativos en respuesta a factores externos, pero las relaciones causales siguen sin estar claras, particularmente en cuanto a si el comportamiento observado resulta de o influye en la información del riesgo operativo. Nuestros hallazgos indican que la información del riesgo operativo se vuelve relevante para los tomadores de decisiones, ya que dirige su atención a consideraciones de volatilidad (Hoffman y Ocasio, 2001) y aumenta la conciencia de riesgo gerencial (Braumann, 2018), influyendo así en el comportamiento de elección. Por lo tanto, la información contable por sí sola puede no ser suficiente para mejorar la conciencia gerencial sobre el riesgo. Este razonamiento podría explicar la heterogeneidad observada en la volatilidad del EBIT entre las empresas: algunos gerentes podrían pasar por alto el papel del riesgo operativo al tomar decisiones que influyen en la estructura de costos de la empresa, lo que lleva a un comportamiento de asunción de riesgos excesivo (Hall et al., 2015). De manera similar, durante las crisis, las empresas pueden implementar estrategias de reducción de costos dirigidas a reducir los costos fijos. Sin embargo, reducir los costos fijos también disminuye el apalancamiento y, todo lo demás constante, un apalancamiento más bajo significa una rentabilidad potencialmente menor para cualquier aumento futuro en las ventas.

Contribuimos a la literatura más amplia sobre el comportamiento de los costos, la gestión de riesgos y el papel de la contabilidad gerencial en proporcionar información valiosa para la toma de decisiones estratégicas (Sprinkle, 2003; Grafton et al., 2010; Cheng y Humphreys, 2012; Shields,

2018) al argumentar que la información del riesgo operativo puede facilitar las decisiones gerenciales de selección de proyectos o presupuesto de capital al cuantificar los efectos de estas decisiones en términos de volatilidad futura. En otras palabras, la información del riesgo operativo puede "mejorar el conocimiento de los empleados, mejorando así su capacidad para tomar juicios y decisiones deseables para la organización y opciones de acción mejor informadas" (Sprinkle y Williamson, 2006, pp: 428, énfasis agregado). Monitorear cómo el riesgo operativo se ve afectado por estas opciones es un paso hacia una toma de decisiones mejor informada.

Al llevar a cabo un experimento de laboratorio, nuestro estudio establece la relevancia de la información del riesgo operativo para los gerentes en condiciones controladas, sirviendo como un precursor importante para la investigación de campo sobre el papel del riesgo operativo en las elecciones de selección de proyectos. Sin embargo, nuestros resultados no pueden determinar si o cómo las empresas incorporan la información del riesgo operativo en decisiones estratégicas ni cómo la experiencia afecta las evaluaciones del riesgo operativo y los cambios en la gestión de costos durante períodos de crisis, inflación o crecimiento económico. Las investigaciones futuras podrían abordar preguntas sobre si las empresas utilizan intencionalmente la información del riesgo operativo para alentar o desalentar el comportamiento de asunción de riesgos por parte de los gerentes, utilizando experimentos de campo para observar o probar la influencia de la información del riesgo operativo en la selección de proyectos reales y proporcionando información valiosa sobre cómo el riesgo operativo se integra en los procesos de toma de decisiones dentro de las organizaciones. Además, nos centramos en un contexto de un solo período porque nuestro objetivo era aislar el efecto de la información del riesgo operativo en la toma de decisiones gerenciales sin introducir posibles efectos de confusión impulsados por la inclusión de una variable de "tiempo". Sin embargo, dado que el aprendizaje y la retroalimentación son objetivos importantes de los sistemas de contabilidad gerencial (Sprinkle y Williamson, 2007), la investigación adicional sobre el riesgo operativo en un contexto de múltiples períodos podría mejorar nuestra comprensión de cómo el riesgo operativo influye en las decisiones secuenciales. Basándonos en nuestro marco teórico y resultados experimentales, esperamos que la información del riesgo operativo sea influyente en tareas de múltiples períodos. No obstante, bajo condiciones de alta incertidumbre, la información del riesgo operativo puede influir en las decisiones gerenciales de manera diferente en comparación con lo que documentamos en este estudio. Los gerentes pueden permitir que factores como la motivación, la cognición o las emociones dominen su toma de decisiones en entornos sociales e institucionales, por lo que las investigaciones futuras podrían explorar la información del riesgo operativo a través de estudios de campo y métodos no experimentales (Swieringa y Weick, 1982; Peters, 1993). La investigación futura podría centrarse en comprender los efectos de la información del riesgo operativo

con diferentes probabilidades o niveles de incertidumbre y en condiciones en las que las acciones gerenciales son fundamentales para los estados futuros de la empresa o su supervivencia, teniendo en cuenta que el riesgo, en su interpretación más amplia, está relacionado tanto con la volatilidad de los resultados como con su probabilidad (March y Shapira, 1987).

En conclusión, nuestro estudio muestra que la información del riesgo operativo desempeña un papel importante en la configuración de las decisiones gerenciales de selección de proyectos y las consideraciones de estructura de costos. Utilizando la teoría de la atención y un entorno de laboratorio controlado, proporcionamos evidencia de que la presencia de información del riesgo operativo reduce la frecuencia de selección de proyectos con alto riesgo operativo, contribuyendo a un comportamiento de asunción de riesgos más equilibrado en el proceso de toma de decisiones. Nuestros hallazgos proporcionan evidencia de que la información del riesgo operativo influye en las decisiones de estructura de costos al actuar conjuntamente con incentivos de desempeño. Creemos que este estudio sirve como punto de partida para investigaciones futuras que busquen estudiar la información del riesgo operativo y la toma de decisiones gerenciales en entornos más complejos y del mundo real.

4.2. Introduction

Management and accounting scholars are increasingly concerned with understanding how managers make decisions and how risk, uncertainty, and incentives affect strategic choices (Weber and Milliman, 1997; Shapira and Shaver, 2014; Brüggem and Luft, 2016; Posch, 2020). Investments and capital allocation decisions, such as launching new products, entering new markets, and even acquiring companies or assets do not have clear outcomes. Managers use accounting information to forecast the future economic performance of their profit center and to estimate future targets (e.g., target sales, target profit). They engage in forecasts and cost-benefit analyses alongside evaluations of risk and volatility, as such considerations contribute to more reliable estimates of the firm's future state (Grafton et al., 2010). These practices enable managers to evaluate the impact of potential investments prior to committing to a specific course of action (Moreno et al., 2002; Sprinkle, 2003; Verbeeten, 2006).

Given the critical role of these practices in underpinning strategic decisions, planning, forecasting, and risk evaluations, accounting information is often utilized to facilitate decision-making (Sprinkle and Williamson, 2006; Tekathen and Dechow, 2020). Among the key factors considered in this process is operating risk, which is computed as the degree of operating leverage (DOL) and the margin of safety (MS) of an investment (Horngren et al., 2012). Operating risk depends on specific combinations of fixed and variable costs, encompassing a wide range of investment and operating decisions.²¹ Prior studies in finance have shown that a broad spectrum of firm-level factors, including equity volatility (Lord, 1996), equity premium (Novy-Marx, 2011; Ozdagli, 2012), cost of equity (Chen, Kacperczyk, and Ortiz-Molina, 2011), and financial leverage (Chen et al., 2019), are connected to operating risk. This body of literature offers compelling evidence that investors take operating risk into account when pricing assets (Banker, et al., 2018). In the

²¹ The DOL measures the volatility of the earnings before interests and taxes (EBIT) to changes in sales. The MS measures the safety of the firm's projects by indicating the distance between the firm's expected sales and its break-even point. Thus, operating risk does not indicate whether the firm will incur into a loss and with what probability. It indicates what is the profitability (loss) potential of the firm following an unexpected increase (decrease) in sales. For these reasons, we will use the words 'operating risk' and 'volatility' interchangeably.

accounting domain, researchers show that managers adjust their cost structure in response to exogenous factors, such as demand shocks, employment regulations, and competitors' strategic decisions (Anderson et al., 2003; Kallapur and Eldenburg, 2005; Simintzi, et al., 2014; Holzhacker et al., 2015; Aboody et al., 2018). However, whether managers engage in considerations of operating risk prior to project selection, including capacity building and investing decisions, remains an open question.² Studying whether operating risk information affects managerial decision making contributes to better understanding why firms have different risk and profitability potentials.

Addressing the need for more in-depth research on risk measures and their influence on managerial decision-making (Van der Stede, 2011; Kaplan and Mikes, 2016), our paper studies the role of operating risk information within project selection. Conveyed through variable costing income statements, operating risk is intertwined with cost structure or the ratio of income statement margins (e.g., CM/EBIT). This leads to a crucial question: when choosing projects based on income statement performance indicators, do managers integrate operating risk considerations into their preferences? If managers already account for risk information when forming preferences about higher/lower risk projects, they might view the stated MS/DOL risk information as redundant. Conversely, if explicit DOL/MS risk information affects managerial preferences, it indicates that accounting information alone might be inadequate for shaping preferences regarding higher/lower volatility projects. In this case, operating risk information could play a crucial role in the preference formation cognitive process. Prior research in this regard has argued for the importance of enhancing risk awareness through risk-related controls (Hall et al., 2015; Braumann, 2018).

Building on attention theory (Posner et al., 2004; Ocasio, 2011; Helfat and Peteraf, 2015), and findings from prior literature on risk and decision-making (March and Shapira, 1992; Mikes, 2011), we predict that operating risk information aids managerial cognitive preferences in project selection decisions. In two experiments, we test several hypotheses regarding the impact of operating risk

² Managers of profit centers constantly make decisions that affect their organization units' revenues, costs, and profit. Operating risk is a measure of expected volatility of the profit centers' bottom line. Whether or not managers consider measures of operating risk when making decisions is at the core of our investigation.

information on managerial risky choice. In these experiments, MBA participants choose one of three mutually exclusive projects (Project A, B, or C). In the baseline condition, projects have identical sales and EBIT but differ in their contribution margins, and thus have different cost structures, of fixed-to-variable cost ratios. Hence, for every decision task, projects' fixed-to-variable cost ratios can be ranked into lowest, in-between, and highest fixed-to-variable cost ratio. Since the three projects yield the same EBIT, the project with highest contribution margin also has the highest fixed costs, thus the highest operating risk. Thus, choosing among projects requires a risk-contribution trade-off: high risk for high contribution margins. The accounting information (i.e., income statement) allows participants to infer operating risk information, but the latter is not explicitly stated. Whether a manager derives the operating risk information from the projects' income statements – for example, by comparing the fixed-to-variable cost ratios of competing projects – and whether s/he factors in such information in the project selection is the focus of our experimental investigation. Participants are randomly assigned to two experimental conditions, in which we manipulate the availability of explicitly stated operating risk information. One group is exposed only to income statement information and the other group is exposed to explicit information on operating risk (along with the income statement/accounting information). In another round of decision tasks, participants switch conditions: we respectively add/omit the information on operating risk to understand whether such information is 'sticky' in project selection decisions.

The study reveals that accounting performance (measured by EBIT, ROS, and/or sales) and operating risk information jointly affect project selection decisions, underscoring the importance of considering both information types in the decision-making process. In the absence of explicit operating risk information, participants tended to select riskier projects, primarily incentivized by accounting performance indicators. However, our study revealed that participants' preferences shifted towards projects with lower levels of operating risk (and lower accounting performance) when provided with explicit information about operating risks. This highlights the significant joint impact of risk information and accounting performance on their decision-making outcomes. Specifically, the

frequency of choosing the riskiest projects decreased by 28% when participants had access to DOL/MS information. The robustness of these findings was demonstrated through experimental stimuli that included manipulations of sales, EBIT levels, and the magnitude of project outcomes. Additionally, the results remained significant even when controlling for order effects and individual characteristics such as risk attitude, age, and gender. The study emphasizes the importance of understanding the combined influence of explicit operating risk information and accounting performance in directing managerial attention to both risk and profitability dimensions when forming project preferences. By incorporating operating risk information alongside ‘objective’ measures of accounting performance, decision-makers can make more informed strategic decisions, such as project selection, capital allocation, and capacity building.⁴

Our study makes the following contributions to the managerial accounting and operating risk literatures. First, we provide new evidence on the role of accounting information in managerial decision making (March, 1986; Hall, 2010) and firm risk (Mikes, 2011; Van der Stede, 2011; Posch, 2020) by showing that managers use information on operating risk to make project selection decisions. This finding imply that operating risk information may support managerial choices by enabling managers to acknowledge how those decisions would impact the potential volatility of the firm’s bottom line. In this regard, our findings speak also to the literature that studies the relationship between risk awareness and organizational outcomes (Hall, et. al., 2015; Braumann, 2018), as drawing attention to operating risk information has a significant impact on managerial decision-making.

Second, our study contributes to the literature on cost structure and operating risk considerations (Chen et al., 2019; Aboody et al., 2018; Bhojraj et al., 2021) by showing that a contribution margin income statement may not be always adequate to convey projects’ operating risk (i.e., volatility of the bottom line). Thus, operating risk information has an attention-directing role in

⁴ Whether operating risk information is useful in project selection decisions depends also on the type of decisions that managers control (e.g., make or buy, special orders, add/drop product lines, etc.) that have a direct effect on the volatility of the bottom line. Specific evidence is needed to understand the degree of freedom or flexibility that managers have on such decisions, which may to some extent depend on the sector in which firms operate.

that it influences managers' cognition and how they balance the information to which they are exposed (Sprinkle, 2003; Grafton et al., 2010). Overall, our findings are also valuable for practitioners, in that operating risk information, in addition to accounting information, should be considered when making capital allocation, capital budgeting, or operating decisions. Firms may engage in risky projects because they fail to consider the negative consequences of high EBIT volatility and downside risk, such as when realized sales are lower than expected sales. Likewise, managers may forgo profitable projects and larger capacity building opportunities because they focus too much on the downside risk.

The remainder of the paper is organized as follows: Section II reviews the literature on the role of information and operating risk in decision making and defines key concepts related to our investigation. Section III describes the experimental design, including the methodology and procedures. Section IV presents the results, detailing the findings and their implications. Finally, Section V concludes with a discussion of the findings, practical implications for managerial decisions, and potential avenues for future research.

4.3. Related literature

In this section, we focus on operating risk in relation to cost structure and summarize key concepts from the finance and accounting literatures. We also develop specific hypotheses about the effect of operating risk information on managerial decision-making.

Operating risk information.

A common risk indicator is operating risk, which is measured through the degree of operating leverage (DOL) and/or the margin of safety (MS) of an investment (Lev, 1974; Holzacker et al., 2015; Aboody et al., 2018; Bhojraj et al., 2021). DOL is commonly referred to as the percentage change in earnings before interests and taxes (EBIT) for each 1% change in sales (Horngren et al., 2012). For example, if a company has a DOL equal to 10, a 1% change in sales has the consequence

of varying the EBIT by 10%. As a result, a high DOL has the potential to expose the firm to huge variations in its economic results for the same variation in sales. Conversely, MS indicates the distance between the firm's target sales and its break-even sales, in units of dollar amount. The greater this distance, the safer the firm. For example, a firm with MS of 50% is safer than a firm with MS of 10% because the first firm is less likely to incur losses for the same drop in sales as the second firm. Since DOL and MS are related reciprocally ($DOL = 1/MS$), knowing the value of the former is as informative as knowing the value of the latter. According to these risk constructs, managers can impose greater operating risk on the firm by making decisions that directly affect the firm's revenue and/or cost structure. For example, managers may either increase the proportion of fixed-to-total costs,⁵ EBIT being equal, or increase operating costs without expecting an equivalent increase in sales.²² Such decisions affect the operating risk profile of a firm, in that small variations in sales lead to tremendous variations in profit.

Operating leverage literature sheds light on how operating risk is related to various firm-level characteristics. For example, in his seminal paper, Lev (1974) shows that DOL is positively related to firms' systematic risk. Mandelker and Rhee (1984) investigate this relationship further and find that operating leverage influences firms' systematic risk via a positive effect on the market beta. Simintzi et al. (2014) show that reforms which enhance employment protection have a positive effect on operating risk, and Donangelo (2014) provides evidence that firms with higher mobility workers face greater operating risk than firms with lower mobility workers. Bhojraj et al. (2021) document that firms with less elastic cost structures (i.e., with more fixed-to-variable costs) have more volatile earnings also because they are more vulnerable to the same macroeconomic risks. Since return and risk are opposite sides of the same coin (Posch, 2020), operating leverage is also related to a superior value of firms' equity (Ozdagli, 2012) or stock return (García-Feijóo and Jorgensen, 2010; Gulen et

⁵ For example, a firm that used to pay its workers on an hourly basis chooses to hire full-time employees.

²² For example, a firm that invests in a project that is expected to generate additional sales in the distant future is increasing its operating risk in the short-term.

al., 2011; Novy-Marx, 2011) and to a higher cost of equity (Chen, Kacperczyk, and Ortiz-Molina, 2011). Overall, the evidence from this literature suggests that financial institutions and investors consider operating risk in asset pricing and evaluation (Banker, et al., 2018). However, whether managers engage with operating risk information and what impact such information has on managerial decision-making is yet unknown.

Managerial decisions, cost behavior, and risk management.

Scholars emphasize that managerial decision-making plays a significant role in cost behavior. The literature shows that managers are reactive to both exogenous and endogenous factors. According to Anderson et al. (2003), certain cost structures result from managers' purposeful decisions to commit resources (such as hiring and firing human resources) in the face of demand uncertainty. Poorly performing firms control operating risk through cost cutting strategies (Bromiley and Washburn, 2011). Aboody et al. (2018) show that a decrease in risk-taking incentives lead managers to swap fixed costs (decrease) for variable costs (increase), to reduce operating risk. While Banker et al. (2014) contend that there is a negative correlation between demand uncertainty and cost structures, Holzacker et al. (2015) offer additional evidence that firms increase the elasticity of their cost structures in response to increased demand uncertainty, thereby lowering their fixed costs.

These studies demonstrate that managers proactively respond to external pressures by strategically selecting different cost structures through the implementation of appropriate strategies and operational decisions. Kallapur and Eldenburg (2005) specifically identify two mechanisms by which firms can alter their cost structure and operating risk. The first involves adopting technologies that rely on high variable costs and low fixed costs. Firms with the ability to incur variable costs will likely choose this option to mitigate losses when predicting future demand becomes increasingly challenging. The second mechanism entails delaying fixed investments. Both approaches significantly affect: (1) the types of projects the firm will invest in the short-term, and (2) the kinds of technologies and contracts it will engage in (Arya and Glover, 2001; Moel and Tufano, 2002).

Furthermore, managers can influence their firms' (units or divisions') cost structures and operating risk by selecting new projects.²³ If managers have preferences for projects with specific levels of EBIT volatility, being aware of this value may impact their choices.

Building on the importance of understanding managers' decision-making processes, financial and profitability information plays a crucial role in supporting *ex ante* investment decisions for both individuals and firms (Moreno et al., 2002; Verbeeten, 2006; Sprinkle and Williamson, 2006). In this context, a specific type of information assists managerial decision-making only if it is instrumental in forming judgments and preferences regarding strategic choices (Sprinkle, 2003; Sprinkle and Williamson, 2006; Grafton et al., 2010). A core challenge in management research involves understanding what kinds of information are essential for managers and employees to make informed decisions (Sprinkle, 2003), with firm risk becoming an increasingly focal point of this research effort (Hall et al., 2015; Paape and Speklé, 2012; Posch, 2020). Notably, Van der Stede (2011, p.615) poses the question, 'Is risk management and reporting perceived as merely a 'compliance' exercise, or is it considered invaluable in planning, budgeting, selecting performance measures, and designing incentive systems?'

Previous research explores the connections between risk management and strategic decision-making. In particular, firms increasingly integrate risk-related measures into planning and forecasting operations (Arena et al., 2010; Aureli and Salvatori, 2012; Paape and Speklé, 2012; Ittner and Michels, 2017). Moreover, risk information plays a pivotal role in managerial discussions regarding current strategic developments (Hall et al., 2015). Posch (2020) reveals that, irrespective of risk-taking strategies, firms incorporate both risk-focused result controls (incentive systems aligned with risk policy) and risk-focused information sharing (employee awareness of risk-taking strategies). Consequently, top managers develop and implement risk measures specifically designed to monitor and control the risk exposure of middle-tier managers (Henri, 2006; Arena et al., 2010; Aureli and

²³ For example, consider a project in which a component is manufactured internally rather than purchased from a third party. This decision will have an effect on the expected contribution margin and cost structure.

Salvatori, 2012).

Developing an effective risk management system hinges on managers' ability to select, communicate, and monitor the firm's risk exposure and risk-taking behavior (Kaplan and Mikes, 2016), or risk awareness (Braumann, 2018; Braumann et al., 2020). Given the role of management accounting as a 'provider of the necessary information for planning and decision-making' (Sprinkle and Williamson, 2006, p.415), further research is needed to determine how risk measures support managerial decision-making across all organizational levels (Arena, Arnaboldi, and Palermo, 2017).

Managers have the option to incorporate DOL/MS into their risk management processes, as their decisions directly influence operating risk. However, limited empirical evidence exists to clearly indicate whether managers actively consider operating risk in their decision-making. To comprehend how operating risk information impacts managerial decision-making, it is essential to first outline and examine the potential mechanisms underlying this relationship. As attention theory sheds light on human perception and interpretation of stimuli, it serves as a valuable framework for understanding the connection between operating risk information and managerial risky choices.

Attention Theory and Hypothesis Development:

Attention theory aims to elucidate how humans perceive and interpret the continuous stream of auditory and visual stimuli present in their environment (Hatfield, 1995). By applying key concepts from attention theory, we can gain insight into the ways operating risk information influences managerial risky decision-making.

According to Helfat and Peteraf (2015), attention is the formation and maintenance of awareness on a specific set of information. Specifically, the *attention component* of alertness aids in the detection and creation of new opportunities, whereas the *orienting capacity* directs attention to relevant information. In doing so, attention 'guides' the interpretation of information, which influences behavior (Lavie et al., 2004). Through the act of focusing on specific information, attention determines which stimuli are recognized and identified (Kosslyn and Rosenberg, 2006). Attention is

thus improved by narrowing the focus on how new information is processed and responded to (Wickens and Carswell, 2021). Findings from the management and accounting literature support the view that the information types provided to decision-makers improve attention (Hoffman and Ocasio, 2001). For example, studies show that managers consider new information that they deem relevant when formulating and implementing a new strategy (Cheng and Humphreys, 2012; Gavetti, et al., 2005).

Based on these assumptions, we anticipate that operating risk information may influence managers' project selection because it directs managerial attention to how much risk/volatility managers are exposing their profit center to. Managers can infer operating risk from the information provided in the contribution margin income statements (for e.g., dividing the contribution margin by the EBIT) but it is yet an open question whether they do so. If managers deliberately infer operating risk by considering the income statement information, then displaying the risk information explicitly should not significantly impact their decisions. However, as attention theory suggests, not viewing directly the information may prevent managers from activating attention circuits and thus integrating more information in their decision-making process (Seger and Peterson, 2013). Operating risk information may thus aid preference formation toward projects with higher/lower operating risk.

Assessing whether managers will shift preferences towards riskier or less risky projects is more challenging, making it difficult to build directional hypotheses. If managers learn to assess risk from a CM income statement, the explicitness of risk information should not impact their decisions. Furthermore, managerial strategic decisions, such as project selection, risky choice, and capital allocation, may depend on cognitive and motivational factors, as well as individual characteristics like risk attitudes, preferences, beliefs, and judgment. Considering that our experimental design focuses on project selection decisions, our primary interest lies in investigating the role of operating risk information for projects that have identical sales and EBIT. In this case, performance is not a discriminating factor, which suggests that motivational factors may not play a role. Under the assumption that individuals have no economic incentive to prefer one project over the other

alternatives, we formulate the following null hypothesis

H1: Operating risk information (as DOL/MS) has no influence on managerial project selection decisions, accounting information/performance being equal.

H1 tests the effect of operating risk information on managerial decisions regarding projects that present the same accounting information/performance. Equal performance on sales and EBIT supposedly does not provide to managers financial incentives to favor one project over the others – thus holding motivational factors constant.

Given that rarely two or more competing projects generate equal performance, we also examine the effects of operating risk information for projects that have different accounting information/performance.²⁴ In this case, motivational factors may play a role. Here we assume that managers may favor the project with higher sales or higher EBIT, which are common incentive-linked indicators. Thus, we formulate and test the following null hypothesis:

H2: Operating risk information (as DOL/MS) has no influence on managerial project selection decisions, accounting information being different.

Because accounting information/performance is influenced by both sales and EBIT levels, hypothesis 2 must be narrowed to test the role of operating risk information across different incentives or motivational factors: sales incentives, EBIT incentives, and both. Accordingly, we test:

H2a: Operating risk information (as DOL/MS) has no influence on managerial project selection decisions, when projects that achieve higher sales are also those with higher

²⁴ We do not assess the subjective value of each project or the shape of the utility function. We assume however that individual incentives are such that managers' utility is higher for higher sales and/or higher EBIT, *ceteris paribus*.

operating risk.

H2b: Operating risk information (as DOL/MS) has no influence on managerial project selection decisions, when projects that promise higher EBIT are also those with higher operating risk.

H2c: Operating risk information (as DOL/MS) has no influence on managerial project selection decisions, when projects that promise higher EBIT and sales are also those with lower operating risk.

The following section illustrates the experimental design, as well as why attention theory was used to inform our empirical findings.

4.4. Method

Pilot Studies

Sprinkle and Williamson (2006, p.417) advocate the use of experiments to minimize the effects of random noise and systematic bias, both of which can potentially lead to validity and reliability issues when examining the influence of accounting information on decision-making. Classic economics attributes decision-making to a combination of factors such as preferences, beliefs, judgment, constraints, and information. Prior decision-making literature includes experiments in which participants were exposed to different or manipulated information (Swieringa and Weick, 1982; Cheng and Humphreys, 2012; Haaland, Roth, and Wohlfart, 2020).

To investigate whether managers can infer operating risk information from an income statement and how they react to such information, we created a decision task that allowed us to isolate and manipulate operating risk information. We designed and conducted a pilot experiment, detailed in the online Appendix,²⁵ with the aim of ensuring that the main experiment was clear, unbiased, and

²⁵ Data from this first wave of experiment is available upon request.

could document the role of operating risk information in decision-making. A total of 217 MBA students were invited to participate, and 139 completed questionnaires were collected after they attended a core MBA course that included training on DOL and MS.

In the pilot, the first round of 12 decision tasks asked participants to select among competing projects (Project A, B, or C, ranked on operating riskiness) based on each project's income statement, without providing any information on operating risk. We then requested explanations for their decisions. In the following three rounds, participants faced the same decisions, but we included explicit measures of operating risk information as MS in round 2, DOL in round 3, and MS/DOL in round 4. After the first wave, we questioned select participants about the material's clarity and consistency. The pilot's results indicated that participants reduced the proportion of risky projects selected when presented with explicit operating risk information, suggesting that attention played a role in the changes as participants focused on profitability aspects when risk information was not salient. To further support the relevance of attention theory for our study, we asked a few participants about the factors influencing their project selection and their treatment of operating risk information after the experiment.

For the experiment reported in this paper, we implemented two significant changes. First, we removed the conditions where MS and DOL were displayed separately, as results were not statistically different. Second, we introduced an order manipulation, so some participants began with decision tasks that lacked risk information (as in the pilot) while others started with explicit risk information (as in the pilot's consecutive conditions). We reversed the order in the actual experiment to see if presenting operating risk information in the first round and removing it in the second round would prompt participants to calculate DOL/MS using available formulas. This would help determine whether the attention drawn to DOL and MS information in the first round prompted the calculation of DOL/MS. Additionally, we included a short survey at the end of the experiment to better understand the role of operating risk information in participants' decision-making (see Appendix I). The survey aimed to evaluate how risk information affected participants' awareness and their

perceptions of its importance and usefulness. We administered the updated experiment with new participants from an International Master's program.²⁶ The results confirmed the pilot's findings, showing a strong impact of operating risk information on project selection for both groups. Furthermore, the survey results suggested a positive association between risk information saliency, increased students' risk awareness, and perceived usefulness of risk information. In summary, both pilots demonstrated the effectiveness of the information treatment.²⁷

We administered the actual experiment on participants from an International MBA program¹² as explained in detail below.

4.5. Experimental Design

Participants and procedure

We conducted the experiment with participants from an international MBA program, as we believed that the influence of operating risk information on project selection would be best understood by individuals with some working experience. We invited 175 MBA students (average age 29 years, 34% female) from a European business school to voluntarily participate in the experiment, which was administered via Qualtrics. The median time to complete the experiment was approximately 35 minutes, and we received a total of 152 responses, with 136 resulting in completed questionnaires.¹³ We emphasized that the decisions in the study did not necessarily have right or wrong answers and instructed participants to provide their honest answers based on the information provided. After giving their consent for us to use their answers in the analysis, participants saw the instructions for the decision-making study on the first screen. They were also informed about the confidentiality of data collection and that three participants would be randomly selected for a prize at the end of the data collection.

²⁶ Data from this second wave of experiment is available upon request.

²⁷ In doing so, we do not find evidence for the experimenter demand effects, which is a form of response bias in experimental investigations (Zizzo, 2010; Mummolo and Peterson, 2019).

¹² The experimental design was approved by the University's Ethical Committee in May 2022 (ref. number: IERC-37-2021-2022)

¹³ 136 are complete except for the survey or missing values in demographic questions. Demographic pre-existing information was merged with our experimental dataset. Thus, in some regressions we have 132 observations.

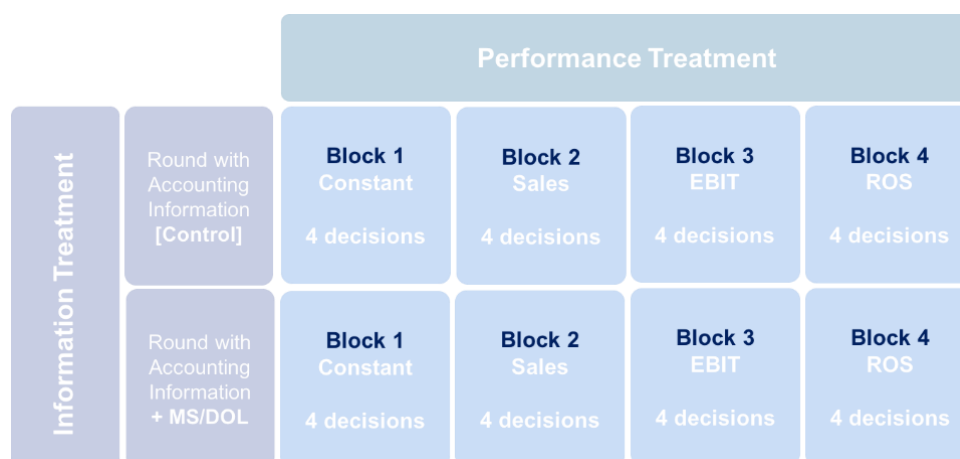
Teaching session on DOL/MS – Training

Several days before administering the experiment, students attended a formal lecture on operating risk within the broader context of cost-volume-profit analysis and break-even computations, as part of a core MBA course on management accounting. During this session, we introduced the concepts of the degree of operating leverage (DOL) and margin of safety (MS), as well as the relevant calculation formulas. Students were presented with projects that generated identical sales and EBIT but had different cost structures, i.e., different combinations of fixed and variable costs. They became familiar with the concepts of riskiness and profit potential for each cost structure, as well as the tradeoff between high or low contribution margin, fixed costs, and variable costs. Students learned that the margin of safety can be computed as the distance between target sales and break-even sales (quantity or dollar amount) or as $1/\text{DOL}$. Regarding the degree of operating leverage, they learned to compute it as the contribution margin over EBIT and that the DOL has a multiplier effect on EBIT for any given percentage variation of sales. Generally, all else being equal, higher fixed costs entail higher risk (volatility), which is reflected in a higher DOL (lower MS). We emphasized that managerial risk-taking, among other factors, may also depend on risk attitudes, judgment, and other individual-level characteristics.

Experimental Stimuli

We designed a multi-decision, within-subject experiment that featured an information treatment (with two conditions) and a performance treatment (with four conditions). We also counterbalanced the order in which the information conditions appeared to participants, resulting in a 2x2x4 repeated measures design. The experiment's details can be found in Figure 1 and Table 1.

Figure 1
Experimental design



Notes. Each round of decision tasks consisted of 16 decisions for a total of 32 decisions. Participants were divided into two groups two groups that were randomly assigned to start with one of the two information treatment.

Table 1
Experimental design and decision tasks

Number of questions	Performance treatment			
	Constant (1)	Sales (2)	EBIT (3)	No Risk (4)
Information treatment				
Group 1				
Round 1: Accounting information only (1)	4	4	4	4
Round 2: Accounting information+MS/DOL (2)	4	4	4	4
Group 2				
Round 1: Accounting information +MS/DOL (2)	4	4	4	4
Round 2: Accounting information (1)	4	4	4	4

Decision task. In the decision task, participants chose among three mutually exclusive projects, as shown in Figure 2. They were presented with Project A, Project B, and Project C, which differed in terms of operating risk. For example, as displayed in Figure 2, Project A exhibits the highest volatility (DOL = 3.33), Project C has the lowest volatility (DOL = 1.67), while Project B falls in between (DOL = 2.5). The location (left, right, center) of the projects was counterbalanced throughout the experiment. We manipulated performance across four treatment blocks and the magnitude of the outcome (i.e., some decisions involve large levels of sales and EBIT, while others involve lower levels) since economic research indicates that individual risk aversion increases with payoffs (Holt and Laury, 2002).¹⁴ Participants were asked to choose one of the three projects and briefly explain their choice, which could help us better understand the patterns of observed project selection.

¹⁴ Specifically, for each decision block, we rank decision tasks based on the average EBIT of the three projects. Order of magnitude assumes value 1 if the average EBIT of the three projects is the highest amongst the other three set of projects of the same block, and 4 if the average EBIT of the three projects is lowest. We observe the same statistically insignificant results when we control for the value of the EBIT or sales – thus, treating the control as a continuous variable.

Information treatment. The decision tasks were organized into two information treatments. In one treatment, participants received an income statement for each project, providing accounting information only (Figure 2a). In the other treatment, participants saw the same accounting information along with explicitly presented operating risk information in the form of pre-computed DOL and MS indexes (Figure 2b). Participants were randomly assigned to two groups. One group started with decisions that included only accounting information (control condition), while the second set of decisions included operating risk information (as DOL/MS) in addition to the accounting information. The other group began with decisions featuring both accounting information and operating risk information; in the second round, they saw the same decisions but with accounting information only.

Figure 2
Decision task

Imagine you are a division manager who is choosing one of three possible projects. Below you may find the accounting information regarding each of the projects. Assume that the forecasts presented are highly trusted, the uncertainty is negligible, and that all the projects create economic value for the company. Because of monetary constraints, you can only choose one project.

Please indicate the project of your choice and explain why you made that choice. Please remember that there are no right or wrong answers.

Please choose **Project A**, **Project B**, or **Project C** by clicking on it.

Project A		Project B		Project C	
Revenues	150,000	Revenues	150,000	Revenues	150,000
Contribution Margin	100,000	Contribution Margin	75,000	Contribution Margin	50,000
EBIT	30,000	EBIT	30,000	EBIT	30,000

Please briefly reason your choice.

(a) Accounting information (control)

Imagine you are a division manager who is choosing one of three possible projects. Below you may find the accounting information regarding each of the projects. Assume that the forecasts presented are highly trusted, the uncertainty is negligible, and that all the projects create economic value for the company. Because of monetary constraints, you can only choose one project.

Please indicate the project of your choice and explain why you made that choice. Please remember that there are no right or wrong answers.

Please choose **Project A**, **Project B**, or **Project C** by clicking on it.

Project A		Project B		Project C	
Revenues	150,000	Revenues	150,000	Revenues	150,000
Contribution Margin	100,000	Contribution Margin	75,000	Contribution Margin	50,000
EBIT	30,000	EBIT	30,000	EBIT	30,000
DOL	3.33	DOL	2.5	DOL	1.67
MS	30%	MS	40%	MS	59.8%

Please briefly reason your choice.

(b) Accounting + DOL/MS information

Performance treatment. The 16 decision tasks were divided into four performance treatment blocks. In each block, we manipulated accounting information across Project A, B, and C to show: (block 1) constant sales and EBIT but different contribution margins, where a higher contribution margin corresponded to higher risk; (block 2) the project with higher sales (but lower return on sales (ROS)) corresponded to higher risk; (block 3) the project with higher EBIT and ROS corresponded to higher

risk; and finally, (block 4) higher sales and higher EBIT corresponded to the least risky project, which we refer to as the ‘no risk’ block. In this condition, the least risky project dominates the alternative options in terms of performance, so we assume a performance incentive towards the least risky project. Block 4 serves as an attention filter aimed at understanding whether participants would consistently select the project with the highest performance and lowest operating risk when risk information is displayed, even though we specified that there are no right or wrong answers in the experiment.

Dependent variable. Our dependent variable is project selection. This approach, as opposed to collecting subjective evaluations of each project, is closest to how managers and entrepreneurs choose projects. As a result, we designed the experiment in accordance with what would happen in real-life situations (Swieringa and Weick, 1982).¹⁵ The decision task aims to capture heterogeneity in participants’ preferences when facing differing profitability/performance information and differing operating risk information.

Control variables. We control for order effects in the information treatment and individual risk attitudes using two asset allocation questions (Kramer and Weber, 2012), magnitude of payoffs, and demographic factors such as age and gender.

4.6. Results

All statistical tests mentioned in this report pertain to two-sided significance at the 0.05 level unless stated otherwise.

Preliminary analyses. Table 2 shows the distribution of project selection across the two information conditions for both Group 1 and Group 2, as well as the total sample. For group 1 (Panel A), the Pearson’s χ^2 (2) test reveals significant differences between the information conditions (Pearson χ^2

¹⁵ The lower the level of uncertainty, the more managers appear to use accounting and financial information to choose between competing projects (Keck, Levensgood, and Longfield, 1998). We therefore clearly state in our experiments that projects have negligible uncertainty about their ability to generate that specific accounting ‘performance.’

(2) = 68.14, $p < 0.001$). Risky projects are predominantly chosen in Round 1, where only accounting information is provided. However, when operating risk information is explicitly available in Round 2, there is a decrease in the frequency of the riskiest project selection. Similarly, in Group 2 (Panel B), Pearson's $\chi^2(2)$ test also shows significant differences across information conditions (Pearson $\chi^2(2) = 48.76$, $p < 0.001$). In Round 1, with accounting information and DOL/MS provided, the least risky project is frequently chosen. In Round 2, when only accounting information is available, there is an increase in the riskiest project selection. Panel C presents the distribution of project selection for the total sample across the two information conditions (Pearson $\chi^2(2) = 116.33$, $p < 0.001$).

Table 3 highlights the frequencies of project choices by treatment, focusing on comparisons between groups. Test results reveal that the frequencies in the accounting information treatment (Pearson $\chi^2(2) = 2.76$, $p = 0.251$), and the DOL/MS information treatment (Pearson $\chi^2(2) = 3.68$, $p = 0.158$) do not significantly differ between groups. These findings suggest that participants receiving the DOL/MS information treatment in Round 1 do not make statistically different choices compared to those receiving the treatment in Round 2. This is also true for the accounting information condition (control).

Table 4 presents the frequencies of project choices across the information and performance treatments. In the 'No Risk' condition (block 4), the most profitable project in terms of sales and EBIT is also the least risky. This condition is referred to as the 'no risk' performance treatment, as it incentivizes participants to choose the least risky project, regardless of whether operating risk information is explicitly stated. In this condition, the highest frequency of the least risky project selection occurs across information treatments, both when only accounting information is displayed and when participants are shown the relevant operating risk information in the form of DOL/MS.

Table 2
Distribution of project choice in the information treatment by group

Choice	-1 (least risky)	0 (medium risky)	1 (riskiest)	Total
Panel A: Group 1				
<i>Information treatment</i>				
Accounting Info. (round 1)	367 (32.80%)	149 (13.32%)	603 (53.89%)	1,119 (100.00%)
+MS/DOL (round 2)	440 (39.32%)	258 (23.06%)	421 (37.62%)	1,119 (100.00%)
Panel B: Group 2				
<i>Information treatment</i>				
Accounting Info. (round 2)	373 (35.42%)	120 (11.40%)	560 (53.18%)	1,053 (100.00%)
+MS/DOL (round 1)	430 (40.87%)	207 (19.68%)	415 (39.45%)	1,052 (100.00%)
Panel C: Total Sample				
<i>Information treatment</i>				
Accounting Info.	740 (34.07%)	269 (12.38%)	1,163 (53.55%)	2,172 (100.00%)
+MS/DOL	870 (40.07%)	465 (21.42%)	836 (38.51%)	2,171 (100.00%)

Notes. Frequency of project choice across conditions in the information treatment (% in parentheses). Project's riskiness was coded as -1 for the least risky project, 0 for the medium risk project, and 1 for the riskiest project.

Panel A: Group 1 (N=70) started with accounting information only in round 1 (16 decisions) and continued with accounting information + DOL/MS in round 2 (16 decisions). Pearson's $\chi^2 = 68.14$, $p < 0.001$. Panel B: Group 2 (N=66) started with accounting information + DOL/MS in round 1 (16 decisions) and continued with accounting information only in round 1 (16 decisions). Pearson's $\chi^2 = 48.76$, $p < 0.001$. Panel C: The total sample (N=136), Pearson's $\chi^2 = 116.33$, $p < 0.001$.

Table 3
Distribution of project choice by information treatment between group

Choice	-1 (least risky)	0 (medium risky)	1 (riskiest)	Total
Panel A: Accounting Info.				
Group 1	367 (32.80%)	149 (13.32%)	603 (53.89%)	1,119 (100.00%)
Group 2	373 (35.42%)	120 (11.40%)	560 (53.18%)	1,053 (100.00%)
Panel B: Acc. Info.+DOL/MS				
Group 1	440 (39.32%)	258 (23.06%)	421 (37.62%)	1,119 (100.00%)
Group 2	430 (40.87%)	207 (19.68%)	415 (39.45%)	1,052 (100.00%)

Notes. Frequency of project choice across conditions by information condition and between group comparisons. Project's riskiness: -1 for the least risky project, 0 for the medium risk project, and 1 for the riskiest project. Panel A: Accounting information only. Pearson's $\chi^2 = 2.76$, $p = 0.251$. Panel B: Accounting information + DOL/MS. Pearson's $\chi^2 = 3.68$, $p = 0.158$.

Table 4
Distribution of risky choice in the information and performance treatments

Choice	Performance			Sales (2)			EBIT (3)			No Risk (4)	
	-1	Constant (1) 0	1	-1	0	1	-1	0	1	0	1
Information											
Accounting Info.	18.08%	10.52%	71.40%	32.90%	11.21%	55.88%	9.76%	14.73%	75.51%	75.51%	13.08%
+MS/DOL	33.58%	20.66%	45.76%	38.93%	22.88%	38.19%	19.89%	23.20%	56.91%	67.83%	18.93%

Notes. Choice distribution in percentages across experimental stimuli.

Relationship between risky choice and operating risk. Hypothesis 1 (H1) tests the null hypothesis that operating risk information, in the form of DOL/MS, does not impact managerial project selection decisions when accounting performance is equal. To evaluate H1, we employ a mixed-effects restricted maximum likelihood (REML) regression (Model 1).¹⁶ Linear mixed-models (LMM) are suitable for multilevel data analysis, accommodating missing data and not relying on restrictive assumptions regarding the variance-covariance matrix.¹⁷ Furthermore, LMM is useful for exploratory analyses and detecting result patterns based on statistical tests (Morrell, 1998). We estimate the following equation: $riskychoice_{i,j} = \beta_0 + \beta_1 Information_{i,j} + \beta_2 Performance_{i,j} + u_j + \epsilon_{ij}$, where $i = 1, \dots, 16$ decisions, and $j = 1, \dots, 136$ participants. The fixed portion of the model is, by design, represented by $\beta_0 + \beta_1 Information_{i,j} + \beta_2 Performance_{i,j}$, can be expressed through a single regression line for average effects. The random effects at the individual level, u_j , help account for unobserved individual variation, such as knowledge or risk attitude, which may not be directly observable or captured in our data. Our response variable is choice, and we estimate the fixed effects through the coefficients for both information treatment and performance treatment and the constant term.

Table 5 and Figure 3 display the results from four different regression estimations. Across all models, we document a negative and statistically significant coefficient for $Information_{i,j}$. Model 1 shows that the coefficient for $Information_{i,j}$ in the base-line case of the performance treatment (no performance incentives), is negative and significant (-0.21, $p < 0.0001$). The coefficient suggests that operating risk information reduces the likelihood of selecting the riskiest project by approximately 19%. We cannot support the null hypothesis H1, as operating risk information

¹⁶ We have panel data structure for each participant and repeated decision tasks with different information available in each treatment. We use the *mixed* command with the REML option, which helps to compare the results of repeated measure ANOVAs with mixed model regressions. We performed alternative regression analyses, including maximum likelihood mixed models, repeated measure ANOVAs, random-effects GLS regressions with robust errors, and fixed-effects models to verify that our results are consistent. All estimated models give consistent results with the ones reported. Data and code are available on request.

¹⁷ We also report the results of RM-ANOVA estimates, and they are consistent with the results of the LMM.

(DOL/MS) significantly influences managerial project selection decisions when accounting information and performance are equal.

Hypothesis 2 (H2) investigates whether operating risk information (DOL/MS) influences managerial decision-making in project selection decisions when accounting performance differs. We test scenarios in which higher sales projects have higher operating risk (H2a), higher EBIT projects have higher operating risk (H2b), and both higher sales and EBIT projects have lower operating risk (H2c). We specifically propose and examine H2c to understand the role of operating risk information when the 'risk-reward' paradigm is reversed. Model 4 regresses choice, our dependent variable, on our experimental stimuli, a vector of controls and demographics (Wald $\chi^2(13) = 1745.60$, $p < 0.0001$, log restricted likelihood = -4603.57). The main effects for information treatment (operating risk) are significant (+MS/DOL, coef. = -0.42, $z = -9.97$, $p < 0.001$), as they significantly lower the choice of risky projects. We also find significant effects across the performance treatment conditions. In block 2, compared to the 'constant performance' (same sales and EBIT across projects), participants select projects with lower sales (higher ROS) and lower risk (block 2. Coef. = -0.31, $z = -7.26$, $p < 0.001$). Although this result may seem surprising, projects with higher sales (while EBIT remains equal) also generate a lower ROS. Therefore, individuals aiming to maximize ROS would prefer projects with lower operating risk. To examine the role of operating risk information in this scenario, we interact 'information' with 'block 2 (sales)' and observe a significant positive effect (coef. = 0.19, $z = 3.25$, $p < 0.001$). However, the overall impact of operating risk information on choice (i.e., $\beta_1 + \beta_{12}$) remains negative (-0.42+0.19 = -0.23). Consequently, we fail to support the null hypothesis H2a, which suggests that operating risk information significantly affects project selection decisions when projects display different sales but equal EBIT.

H2b investigates the influence of operating risk information on project selection when projects with higher EBIT (with sales being equal) are associated with higher operating risk. The main effect of EBIT incentives on project selection is significant, with a positive and statistically significant coefficient (block 3, coef. = 0.13, $z = 2.97$, $p < 0.01$). Operating risk information positively interacts

with ‘block 3 (EBIT)’ (coef. = 0.14, $z=2.25$, $p < 0.025$), although the overall effect of operating risk on risky choice remains negative ($-0.42 + 0.14 = -0.28$). This result leads to the rejection of H2b, suggesting that operating risk information does influence project selection decisions by decreasing the likelihood of risky choices, even when decision-makers have an EBIT incentive to select projects with the highest operating risk.

Finally, H2c examines the role of operating risk information when low-risk projects also have higher sales and EBIT. The main effects indicate that individuals prefer the least risky and most profitable projects (coef. = -1.17, $z = 27.55$, $p < 0.001$), suggesting that such incentives effectively deter risky choices. The interaction effect is positive (coef. = 0.51, $z = 8.53$, $p < 0.001$), and the overall effect of operating risk information increases risky choices relative to constant performance ($-0.42+0.51=0.09$). Therefore, we cannot support H2c.

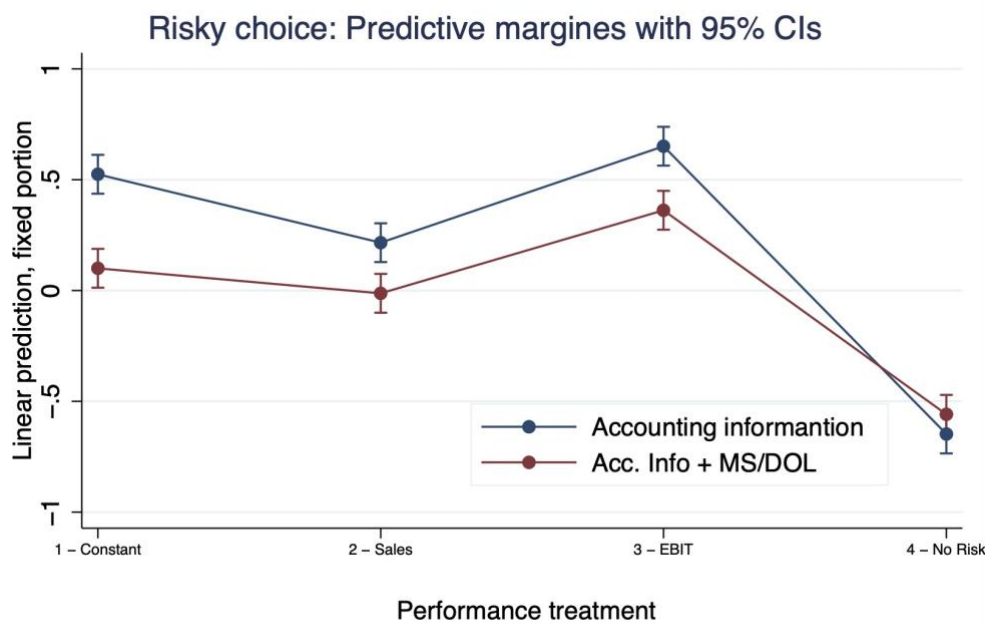
We find no significant order effects (coef. = -0.004, $z = -0.06$, $p < 0.953$), magnitude of outcome effects (coef. = -0.0002, $z = -0.02$, $p < 0.981$), gender or age effects. Individual risk attitude measured through an asset allocation task with small outcomes of €20 is also not significant (coef. = 0.041, $z = 0.083$, $p < 0.407$). However, when we use larger outcomes of €5000, we find a significant association with riskier choices (coef. = 0.107, $z = 2.06$, $p < 0.039$), which aligns with previous behavioral economics findings (Kramer and Weber, 2012; Holt and Laury 2002).

Table 5
What contributes to choosing risky projects?

DV: Choice of riskiest project	Model 1	Model 2	Model 3	Model 4
Information treatment				
2 +MS/DOL	-0.21 ^a (0.025)	-0.21 ^a (0.023)	-0.21 ^a (0.023)	-0.42 ^a (0.043)
Performance treatment				
2 Sales		-0.22 ^a (0.029)	-0.22 ^a (0.029)	-0.31 ^a (0.043)
3 EBIT		0.19 ^a (0.029)	0.19 ^a (0.029)	0.13 ^b (0.043)
4 No risk		-0.92 ^a (0.029)	-0.92 ^a (0.029)	-1.17 ^a (0.043)
Info. trt × Perf. trt				
2 2				0.19 ^a (0.060)
2 3				0.14 ^c (0.060)
2 4				0.51 ^a (0.060)
Order treatment			-0.02 (0.070)	-0.00 (0.070)
Magnitude			0.00 (0.009)	0.00 (0.009)
Risk 1				0.04 (0.049)
Risk 2				0.11 ^c (0.052)
Gender				0.09 (0.075)
Age				-0.02 (0.013)
Constant	0.40 ^a (0.051)	0.43 ^a (0.041)	0.43 ^a (0.058)	1.02 ^b (0.392)
Wald χ^2	71.88 ^a	1671.22 ^a	1670.95 ^a	1745.60 ^a
Log rest. likelihood	-5429.78	-4769.51	-4774.92	-4603.57
Number of decisions	4,343	4,343	4,343	4,216
Participants	136	136	136	132
Random-effects parameters				
var(Cons.)	0.145 (0.020)	0.151 (0.020)	0.152 (0.021)	0.145 (0.020)
var(Residual)	0.667 (0.014)	0.486 (0.011)	0.486 (0.011)	0.476 (0.011)
LR test χ^2	572.46 ^a	848.08 ^a	849.61 ^a	777.78 ^a

Notes. Mixed model regressions using REML option; point estimates with std. err. in parentheses.
^a $p < 0.001$, ^b $p < 0.01$, ^c $p < 0.05$.

Figure 3
Experimental results



Comparisons of marginal linear predictions (joint tests) show that information treatment ($df = 1$, $\chi^2 = 100.62$, $p < 0.001$), the performance treatment ($df = 3$, $\chi^2 = 1555.91$, $p < 0.001$), and their interaction

($df = 3$, $\chi^2 = 78.34$, $p < 0.001$) are all significant. Pairwise comparisons between information treatments (accounting info + MS/DOL vs. accounting info only) also produce significant results. All tests show a decrease in risky choice, except for EBIT. In this performance condition (block 3), we find that operating risk information significantly increases risky choice. All pairwise comparisons of performance conditions are significant at $p < 0.01$ level, for both information conditions. Post-hoc analyses show significant linear trends in both information conditions.

Post-experimental checks. At the end of the experiment, we administered a series of survey questions (using a modified Likert scale) to summarize the participants' responses. These questions assess whether the operating risk information influenced their choices, increased their risk awareness, and whether they found the information useful and important. We also asked if they were able to compute operating risk information as DOL/MS given the accounting information or contribution margin income statement structure. We tested each variable individually for normality, as well as a composite variable generated as a sum. The Shapiro-Wilk W normality test shows the data are normally distributed ($N=136$, $W=0.963$, $z=3.059$, $p<0.0011$). One sample t -tests (and also non-parametric median tests, i.e., signrank tests) show that most variables are significantly different than the neutral scale point 3: influence ($N=136$, $M=3.96$, $t=11.16$, $p<0.000$), usefulness ($N=136$, $M=3.92$, $t=11.97$, $p<0.000$), risk assessment ($N=136$, $M=3.18$, $t=1.99$, $p<0.048$), risk awareness ($N=136$, $M=3.83$, $t=9.65$, $p<0.000$). In the second set of questions, participants assessed the importance of the information ($N=136$, $M=3.77$, $t=9.58$, $p<0.000$) and whether they were able to compute DOL/MS ($N=136$, $M=3.09$, $t=0.94$, $p<0.346$). These results suggest that participants rate operating risk information as significantly important and useful. Moreover, they also support that risk information significantly improved their risk assessment, as well as their risk awareness. This empirical result provides further support to the fact that operating risk affects project selection through an increased attention and cognitive process that addresses operating risk. The final question aimed to discriminate participants' prior knowledge on operating risk. We divide the sample into 'knowledgeable' (if he or she answers: 4 or 5) and 'non-knowledgeable' (if he or she answers: 1, 2, or 3). The Pearson Chi Square test shows that having prior knowledge of operating risk does not affect project selection.¹⁸

¹⁸ We also replicate the regression model (Model 4) by controlling for 'knowledgeable' and observe no statistical significance.

This result is important because it indicates that the attention-directing role of operating risk information in project selection is not influenced by participants' prior knowledge. Moreover, it suggests that participants make use of this information in a similar way.¹⁹

Finally, we conducted a comparative analysis between two groups (group 1, N = 70, group 2, N = 66) using two independent samples t-tests. As a reminder, Group 1 started with accounting information, followed by the addition of DOL/MS, while Group 2 began with both accounting information and DOL/MS, with DOL/MS being removed in a later stage. The results revealed a significant difference in the overall scores of post-experimental evaluations (all post-experimental checks, mean diff. = -1.72, $t=-2.24$, $p<0.027$). Breaking down the individual questions, we observed the following: influence (mean diff. = -0.36, $t=-2.14$, $p<0.034$), usefulness (mean diff. = -0.45, $t=-3.03$, $p<0.003$), risk assessment (mean diff. = -0.26, $t=-1.42$, $p<0.158$), risk awareness (mean diff. = -0.40, $t=-2.36$, $p<0.019$). In the second set of questions, we found: importance (mean diff. = -0.39, $t=-2.50$, $p<0.014$), not able to compute (mean diff. = -0.36, $t=-1.76$, $p<0.079$), able to compute (mean diff. = -0.138, $t=-0.68$, $p<0.497$). All in all, these findings suggest that Group 2, which was initially exposed to DOL/MS, perceived the operating risk information to be more influential, useful, and important, as it has likely positively affected their awareness. However, no differences were found in the average self-assessed ability to compute DOL/MS.

While the group primed with operating risk information regarded it as more influential, the project selection choices observed did not significantly differ between the groups. This implies that operating risk information is non-sticky, as decision-makers do not seem to consider it once it is deliberately removed. This finding supports our argument that explicit operating risk information plays an attention-directing role in project selection.

4.7. Discussion and Conclusions

The importance of managerial decisions on cost structure adjustments and firm risk is well established (Aboody et al., 2018; Banker et al., 2018; Sprinkle, 2003; Van der Stede, 2011), yet there is limited evidence on the relation between operating risk and project selection. Operating risk is

¹⁹ These results must be interpreted considering the way we split our sample. Although we do not objectively discriminate between knowledgeable and naive participants, we have no reason to believe that participants were biased when answering the survey or experiment. As clearly stated in the informed consent, the results of the experiment did not affect their academic performance. Moreover, this variable is normally distributed, which does not suggest that individuals were biased towards a specific answer.

important due to its association with firm-level characteristics, such as financial leverage (Chen et al., 2019), equity volatility (Lord, 1996), equity premium (Novy-Marx, 2011; Ozdagli, 2012), and cost of equity (Chen, Kacperczyk, and Ortiz-Molina, 2011). Existing research strongly suggests that managers adjust cost structures and operating risk in response to external shocks (Kallapur and Eldenburg, 2005; Simintzi et al., 2014; Holzacker et al., 2015; Aboody et al., 2018). However, the impact of operating risk information on cost structure decisions remains unclear. Our study fills this gap by investigating the influence of both accounting and operating risk information on project selection decisions in a controlled setting, deepening our understanding of the factors shaping cost structure decisions. Specifically, we analyze the effect of operating risk information (in the form of DOL/MS) on project selection. Drawing from attention theory and Ocasio's (1997; 2011) attention-based view of the firm, we find that the presence (absence) of operating risk information reduces (increases) the frequency of choosing a project with high operating risk. This finding aligns with the literature on managerial risk-taking behavior and preferences (Sprinkle, 2003; Van der Stede, 2011).

Our results show that operating risk information decreases the riskiest choice frequency by 28%, highlighting its importance in managerial decision-making. This finding demonstrates how operating risk information directs managers' attention towards projects with specific volatility and safety measures, ultimately influencing their preferences and leading to more balanced risk-taking behavior in project selection decisions. Our study contributes to the literature by examining the attention-directing role of operating risk information in project selection decisions, addressing a gap in the current understanding of whether operating risk information itself impacts cost structure decisions. These results add on the literature that investigates the role of accounting information and performance (Banker et al., 2018; Bhojraj et al., 2021) by showing that the effect of operating risk information weakens when the performance of mutually exclusive projects varies, as measured by commonly used indicators such as sales, contribution margin, and EBIT. This suggests that managers may place greater weight on financial performance in such situations (Aboody et al., 2018). Notably, performance-based incentives did not counteract operating risk information's effects, except in block

4, where the highest performing project was also the least risky, eliminating the performance incentive to assume risk. This observation suggests a significant interaction between operating risk information and performance measures in shaping decision-making during project selection. Building upon these findings, we demonstrate how the interplay between performance incentives and operating risk information shapes managerial decisions, offering novel insights into the factors influencing cost structure and firm risk. We argue that the salience of downside risk increases when managers view explicit information on operating risk, activating a cognitive preference formation towards a specific choice (Helfat and Peteraf, 2015). Our experimental design supports this theoretical explanation.

In our study, managers could have inferred the operating risk information we provided by engaging with accounting numbers and computing the formulas. For example, during the training session, participants could have divided the contribution margin (CM) by the EBIT of the three projects. The fact that they did not make operating risk considerations supports the idea that managers balance only the variables they are exposed to in their decisions (Sprinkle, 2003; Grafton et al., 2010). Although reaction and behavioral effects are commonly documented in information experiments, our results show that the influence of operating risk information is context-specific and non-persistent. Participants react to such information locally without exhibiting learning effects as they move through decision tasks. Consequently, removing risk information mimics the behavior of participants never exposed to such information in the first place.

Our study on operating risk information addresses recent calls for more research on the relationship between managerial decision-making, cost structure, and operating risk (Chen et al., 2019; Aboody et al., 2018; Banker et al., 2018; Bhojraj et al., 2021). While cost structure information can provide insights into cost elasticity considerations, it may not always be sufficient for forming preferences toward specific volatility outcomes. Operating risk has been extensively studied in the finance domain since Lev's seminal 1974 paper, with growing interest emerging in accounting literature. Recent studies, such as Aboody et al. (2018) and Banker et al. (2018), show that managers adjust their cost structures and operating risk in response to external factors, but the causal

relationships remain unclear, particularly regarding whether observed behavior results from or influences operating risk information. Our findings indicate that operating risk information becomes relevant to decision-makers, as it directs their attention to volatility considerations (Hoffman and Ocasio, 2001) and raises managerial risk awareness (Braumann, 2018), thereby influencing choice behavior. Therefore, accounting information alone may not sufficiently enhance managerial awareness of risk. This reasoning could explain the observed heterogeneity in EBIT volatility among firms: some managers might overlook the role of operating risk when making decisions that influence the firm's cost structure, leading to excessive risk-taking behavior (Hall et al., 2015). Similarly, during crises, firms may implement cost-reduction strategies aimed at reducing fixed costs. However, reducing fixed costs also decreases leverage, and with all else being equal, lower leverage means lower potential profitability for any future sales increase.

We contribute to the broader literature on cost behavior, risk management, and the role of management accounting in providing valuable information for strategic decision-making (Sprinkle, 2003; Grafton et al., 2010; Cheng and Humphreys, 2012; Shields, 2018) by arguing that operating risk information can facilitate managerial project selection or capital budgeting decisions by quantifying the effects of these decisions in terms of future volatility. In other words, operating risk information may 'improve employees' knowledge, thereby enhancing their ability to make organizationally desirable judgments and decisions and better-informed action choices' (Sprinkle and Williamson, 2006, pp: 428, emphasis added). Monitoring how operating risk is affected by these choices is a step toward better-informed decision-making.

By conducting a laboratory experiment, our study establishes the relevance of operating risk information to managers in controlled conditions, serving as an important precursor to field research on the role of operating risk in project selection choices. However, our results cannot determine whether or how firms incorporate operating risk information in strategic decisions or how experience affects assessments of operating risk and cost management shifts operating risks during periods of crisis, inflation, or economic growth. Future research could address questions about whether firms

intentionally use operating risk information to encourage or discourage managerial risk-taking behavior, utilizing field experiments to observe or test the influence of operating risk information on real project selection and providing valuable insights into how operating risk factors into decision-making processes within organizations. Moreover, we focused on a single-period setting because we aimed to isolate the effect of operating risk information on managerial decision-making without introducing potential confounding effects driven by the inclusion of a ‘time’ variable. However, since learning and feedback are important goals of management accounting systems (Sprinkle and Williamson, 2007), further research on operating risk in a multi-period context would improve our understanding of how operating risk influences sequential decisions. Based on our theoretical framework and experimental results, we expect operating risk information to be influential in multi-period tasks. Nevertheless, under high uncertainty conditions, operating risk information may influence managerial decisions differently compared to what we document in this study.²⁰ As managers may allow factors like motivation, cognition, or emotions to dominate their decision-making in social and institutional environments, future research could explore operating risk information through field studies and non-experimental methods (Swieringa and Weick, 1982; Peters, 1993). Future research could focus on understanding the effects of operating risk information with varying probabilities or uncertainty levels and in conditions where managerial actions are pivotal to future firm states or survival, taking into account that risk, in its broadest interpretation, is related to both the volatility of outcomes and their likelihood (March and Shapira, 1987).

In conclusion, our study shows that operating risk information plays a significant role in shaping managerial project selection decisions and cost structure considerations. By using attention theory and a controlled laboratory setting, we provide evidence that the presence of operating risk information reduces the frequency of selecting high operating risk projects, contributing to a more balanced risk-taking behavior in the decision-making process. Our findings provide evidence that

²⁰ It is important to recognize that operating risk information’s role may differ across contexts. High-risk industries, like technology or biopharmaceuticals, may require different decision-making approaches compared to stable industries. Understanding these differences can inform the design of effective management accounting systems tailored to the organization’s various decision-makers.

Gianluca F. Delfino

operating risk information influences cost structure decisions by acting jointly with performance incentives. We believe that this study serves as a starting point for future research that aims to study operating risk information and managerial decision-making in more complex, real-world settings.

4.8. References

- Aboody, D., Levi, S., and Weiss, D. (2018). Managerial incentives, options, and cost- structure choices. *Review of Accounting Studies*, 23(2):422–451.
- Anderson, M. C., Banker, R. D., and Janakiraman, S. N. (2003). Are selling, general, and administrative costs ‘sticky’? *Journal of Accounting Research*, 41(1):47–63.
- Arena, M., Arnaboldi, M., and Azzone, G. (2010). The organizational dynamics of enterprise risk management. *Accounting, Organizations and Society*, 35(7):659–675.
- Arena, M. Arnaboldi, M., and Palermo, T. (2017). The dynamics of (dis)integrated risk management: A comparative field study. *Accounting, Organizations and Society*. 62. 65-81.
- Arya, A. and Glover, J. (2001). Option value to waiting created by a control problem. *Journal of Accounting Research*, 39(3):405–415.
- Aureli, S. and Salvatori, F. (2012). An investigation on possible links between risk management, performance measurement and reward schemes. *Accounting and Management Information Systems*, 11(3):306.
- Banker, R. D., Byzalov, D., and Plehn-Dujowich, J. M. (2014). Demand uncertainty and cost behavior. *The Accounting Review*, 89(3):839–865.
- Banker, R. D., Byzalov, D., Fang, S., and Liang, Y. (2018). Cost management research. *Journal of Management Accounting Research*. 30(3). 187-209.
- Bhojraj, S., Bloomfield, R. J., Jang, Y., and Yehuda, N. (2021). Cost structure, operating leverage, and CDS spreads. *The Accounting Review*, 96(5):79–105.
- Braumann, E. C. (2018). Analyzing the role of risk awareness in enterprise risk management. *Journal of Management Accounting Research*. 30(2). 241-268.
- Braumann, E. C., Grabner, I., and Posch, A. (2018). Tone from the top in risk management: A complementarity perspective on how control systems influence risk awareness. *Accounting, Organizations and Society*. 84. forthcoming.
- Birnberg, J. G., and Shields, M. D. (1984). The role of attention and memory in accounting decisions. *Accounting, Organizations and Society*. 9(3/4). 365-382.
- Bromiley, P. and Washburn, M. (2011). Cost reduction vs innovative search in r&d. *Journal of Strategy and Management*. 4(3). 196-214.
- Brüggen, A. and Luft, J. L. (2016). Cost estimates, cost overruns, and project continuation decisions. *The Accounting Review*, 91(3):793–810.
- Chen, H. J., M. Kacperczyk, and Ortiz-Molina, H. (2011). Labor unions, operating flexibility, and the cost of equity. *Journal of Financial and Quantitative Analysis* 46(1): 25–58.
- Chen, Z., Harford, J., and Kamara, A. (2019). Operating leverage, profitability, and capital structure. *Journal of Financial and Quantitative Analysis*, 54(1):369–392.
- Cheng, M. M., and Humphreys, K. A. (2012). The differential improvement effects of the strategy map and scorecard perspectives on managers’ strategic judgments. *The Accounting Review*. 87(3). 899-924.
- García-Feijóo, L. and Jorgensen, R. D. (2010). Can operating leverage be the cause of the value premium? *Financial Management*, 39(3):1127–1154.
- Grafton, J., Lillis, A. M., and Widener, S. K. (2010). The role of performance measurement and evaluation in building organizational capabilities and performance. *Accounting, Organizations and Society*, 35(7):689–706.
- Gulen, H., Xing, Y., and Zhang, L. (2011). Value versus growth: Time-varying expected stock returns. *Financial Management*, 40(2):381–407.
- Haaland, I., Roth, C., Wohlfart, J., (2020). Designing Information Provision Experiments. *CESifo Working Paper No. 8406*.
- Hall, M. (2010). Accounting information and managerial work. *Accounting, Organizations and Society*. 35(3): 301-315.
- Hall, M., Mikes, A., and Millo, Y. (2015). How do risk managers become influential? A field

- study of toolmaking in two financial institutions. *Management Accounting Research*, 26, 3–22.
- Hatfield, G. (1998). Attention in Early Scientific Psychology. In R. Wright (Ed.), *Visual Attention* (pp. 3–25). Oxford University Press.
- Helfat, C. E., and Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*. 36(6). 831–850.
- Henri, J.F. (2006). Management control systems and strategy: A resource-based perspective. *Accounting, Organizations and Society*, 31(6):529–558.
- Hoffman, A. J., and Ocasio, W. (2001). Not all events are attended equally: Toward a middle-range theory of industry attention to external events. *Organization Science*. 12. 412–434.
- Holt, L. A., and Laury, S. K. 2002. Risk aversion and incentive effects. *American Economic Review*, 92(5), 1644–1655.
- Holzhammer, M., Krishnan, R., and Mahlendorf, M. D. (2015). Unraveling the black box of cost behavior: An empirical investigation of risk drivers, managerial resource procurement, and cost elasticity. *The Accounting Review*, 90(6):2305–2335.
- Horngrén, C. T., Datar, S. M., and Rajan, M. V. (2012). *Cost Accounting: A Managerial Emphasis*. Pearson, United States.
- Ittner, C. D. and Michels, J. (2017). Risk-based forecasting and planning and management earnings forecasts. *Review of Accounting Studies*, 22(3):1005–1047.
- Kallapur, S. and Eldenburg, L. (2005). Uncertainty, real options, and cost behavior: Evidence from Washington state hospitals. *Journal of Accounting Research*, 43(5):735–752.
- Kaplan, R. S., and Mikes, A. (2016). Risk management – the revealing hand. *Journal of Applied Corporate Finance*. 28(1). 8–18.
- Keck, T., Levenson, E., and Longfield, A. L. (1998). Using discounted cash flow analysis in an international setting: A survey of issues in modeling the cost of capital. *Journal of Applied Corporate Finance*. 11(3). 82–99.
- Kosslyn S.M., and Rosenberg R.S. (2006). *Psychology in Context*. Allyn and Bacon: Boston, MA.
- Kramer, L. A. and Weber, J. M. (2012). This is your portfolio on winter: Seasonal affective disorder and risk aversion in financial decision making. *Social Psychological and Personality Science*, 3(2):193–199.
- Lavie, N., A. Hirst, W. de Fockert, and Viding, E. (2004). Load theory of selective attention and cognitive control. *Journal of Experimental Psychology: General*. 133. 339–354.
- Lev, B. (1974). On the association between operating leverage and risk. *Journal of Financial and Quantitative Analysis*, 9(4):627–641.
- Lord, R. A. (1996). The impact of operating and financial risk on equity risk. *Journal of Economics and Finance*, 20(3):27–38.
- Mandelker, G. N. and Rhee, S. G. (1984). The impact of the degrees of operating and financial leverage on systematic risk of common stock. *Journal of Financial and Quantitative Analysis*, 19(1): 45–57.
- March, J. G. (1986). Ambiguity and accounting: The elusive link between information and decision making. *Accounting, Organizations and Society*. 12: 153–168.
- March, J. G. and Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science*, 33(11):1404–1418.
- March, J. G., and Shapira, Z. 1992. Variable risk preferences and the focus of attention. *Psychological Review*. 99(1). 172–183.
- Mikes, A. (2011). From counting risk to making risk count: Boundary-work in risk management. *Accounting, Organizations and Society*, 36(4–5):226–245.
- Moel, A. and Tufano, P. (2002). When are real options exercised? An empirical study of mine closings. *The Review of Financial Studies*, 15(1):35–64.
- Moreno, K., Kida, T., and Smith, J. F. (2002). The impact of affective reactions on risky decision making in accounting contexts. *Journal of Accounting Research*, 40(5):1331–1349.
- Morrell, C. H. (1998). Likelihood ratio testing of variance components in the linear mixed-effects model

- using restricted maximum likelihood. *Biometrics*. 54. 1560-1568.
- Mummolo, J., and Peterson, E. (2019). Demand effects in survey experiments: An empirical assessment. *American Political Science Review*. 113(2). 517-529.
- Novy-Marx, R. (2011). Operating leverage. *Review of Finance*. 15(1). 103-134.
- Ocasio, W. (2011). Attention to attention. *Organization Science*. 22(5). 1286-1296.
- Ozdogli, A. K. (2012). Financial leverage, corporate investment, and stock returns. *The Review of Financial Studies*, 25(4):1033–1069.
- Paape, L., and Speklé, R. F. (2012). The adoption and design of enterprise risk management practices: An empirical study. *European Accounting Review*. 21(3). 533-564.
- Peters, J. M. (1993). Decision making, cognitive science and accounting: An overview of the intersection. *Accounting, Organizations and Society*. 18(5). 383-405.
- Posch, A. (2020). Integrating risk into control system design: The complementarity between risk-focused results controls and risk-focused information sharing. *Accounting, Organizations and Society*, 86:101126.
- Posner, M. I., Snyder, C. R., and Solso, R. (2004). Attention and cognitive control. *Cognitive psychology: Key readings*, 205, 55-85.
- Seger, C. A., and Peterson, E. J. (2013). Categorization = decision making + generalization. *Neuroscience & Biobehavioral Reviews*. 37(7). 1187-1200.
- Shapira, Z. and Shaver, J. M. (2014). Confounding changes in averages with marginal effects: How anchoring can destroy economic value in strategic investment assessments. *Strategic Management Journal*, 35(10):1414–1426.
- Shields, M. D. (2018). A perspective on management accounting research. *Journal of Management Accounting Research*. 30(3), 1-11.
- Simintzi, E., Vig, V., and Volpin, P. (2015). Labor protection and leverage. *Review of Financial Studies*. 28(2). 561-591.
- Sprinkle, G. B. (2003). Perspectives on experimental research in managerial accounting. *Accounting, Organizations and Society*, 28(2-3):287–318.
- Sprinkle, G. B. and Williamson, M. G. (2006). Experimental research in managerial accounting. *Handbook of Management Accounting Research*, 1:415–444.
- Swieringa, R.J., and Weick, K. E. (1982). An assessment of laboratory experiments in accounting. *Journal of Accounting Research*. 20: 56-101.
- Tekathen, M., and Dechow, N. (2020). Semantic narrowing in risk talk: The prevalence of communicative path dependency. *Management Accounting Research*. 48. 100692.
- Van der Stede, W. A. (2011). Management accounting research in the wake of the crisis: Some reflections. *European Accounting Review*, 20(4): 605–623.
- Verbeeten, F. H. (2006). Do organizations adopt sophisticated capital budgeting practices to deal with uncertainty in the investment decision? A research note. *Management Accounting Research*, 17(1):106–120.
- Weber, E. U. and Milliman, R. A. (1997). Perceived risk attitudes: Relating risk perception to risky choice. *Management Science*, 43(2):123–144.
- Wickens, C., and Carswell, C. M. (2021). Information processing. In G. Salvendy & W. Karwalski (Eds.), *Handbook of human factors & ergonomics* (5th ed.). Taylor & Francis.
- Zizzo, D. J. (2010). Experimenter demand effects in economic experiments. *Experimental Economics*. 13. 75-98.

4.9. Appendixes

Appendix I Results of the Survey

	Average	Std	t-test
The information on DOL and on MS influenced my choices	3.96	0.93	11.16***
The information on DOL and on MS was useful in evaluating the attractiveness of projects	3.92	0.87	11.97***
Without the information on DOL and on MS it was difficult to assess the riskiness of the projects	3.18	1.06	1.99**
The information on DOL and on MS helped me become more aware of the riskiness of the three projects	3.83	1.00	9.65***
The information on DOL and on MS was important to display	3.77	0.89	9.58***
I am able to compute DOL and MS based on accounting information.	3.09	1.17	0.346

The survey was administered to managers at the end of both rounds. We used a Likert scale from 1 (strongly disagree) to 5 (strongly agree). We have computed the t-test against the baseline option 3 (neither agree nor disagree). Note that: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5. Final Remarks

In conclusion, this dissertation, titled '*Three Papers in Management Accounting and Control*,' presents a comprehensive exploration of critical aspects of management accounting, focusing on professional service firms and the impact of operating risk on managerial decision-making. The first two chapters delve into the effects of remote working and performance management systems on employee responses, wellbeing, and motivation. By investigating the changes in management control practices during the COVID-19 crisis and examining the relationships between performance management systems and employee wellbeing through the lens of recognition theory, these chapters contribute significantly to the literature on management control, motivation, and performance management.

The third chapter shifts focus to the attention-directing role of operating risk, specifically the degree of operating leverage and margin of safety, in managerial project selection decisions. This research emphasizes the importance of considering operating risk in conjunction with performance incentives and highlights the potential value of incorporating operating risk information in project selection and risk management. This chapter, therefore, lays the groundwork for future studies on the interplay between operating risk and control systems.

While this dissertation offers valuable insights into management accounting and control, it acknowledges certain limitations that warrant further research. For instance, the first two chapters focus primarily on PSFs, suggesting the need for additional research in other organizational contexts. Moreover, the third chapter's experimental design leaves room for investigating the influence of operating risk information on other aspects of managerial decision-making.

Overall, this dissertation emphasizes the importance and timeliness of understanding the complex relationships between management accounting and control, employee behavior, and operating risk, particularly in light of the COVID-19 crisis and an increasingly performance-driven business environment. The insights gleaned from this research can inform both academic and practical approaches to management accounting and control, while simultaneously highlighting areas for future investigation.

Thank you,

Gianluca F. Delfino

Gianluca F. Delfino