



**SCHOOL OF
ECONOMICS AND
MANAGEMENT**

The Effectiveness of Performance Management Systems and its Systemic Value

by

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Abstract

Title: The Effectiveness of Performance Management Systems and its Systemic Value

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Purpose: This thesis aims to explore how managers comprehend the systemic value of a companies' Performance Management System (PMS).

Theoretical Perspective: This study is based on Performance Management theory, particularly the PMS. The constructed theoretical framework consists of five theoretical lenses such as systems, complementarity, contingency, path-dependency, and complexity theory.

Methodology: A qualitative multiple-case study was conducted to analyze companies' PMS from a system-based view. Furthermore, an abductive reasoning logic is set to enhance the dialogue between the researcher, data, and theory, leveraged by content latent-pattern and thematic analysis.

Empirical Foundation: The empirical material consists of eight independent case studies conducted by several research groups. The cases provide in-depth insights into the organization's PMS design, usage, and consideration from a senior manager's perspective. All cases are structured based on Ferreira and Otleys' (2009) PMS framework.

Conclusion: The study findings show that PMS causes path-dependent behavior, leading to organizational rigidities, strategic inertia, and diminishing PMS effectiveness. Managers' comprehension of the multifaceted, complex, and systemic nature of PMS can counteract the unintended negative consequences of PMS, such as the lock-in effect, and improve its effectiveness. This study recommends practitioners adopt a systems-based view of their PMS to raise their awareness of the PMS systemic value by identifying mediating variables, seeking a PMS-internal fit between PMS categories through congruent interdependencies, questioning its potential, and using the PMS dynamically.

Keywords: Performance Management System, Effectiveness, Systemic Value, Concept of Fit, Path-dependency

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Abbreviations

BI	Business Intelligence
BSC	Balanced Scorecard
CBSC	Corporate Balanced Scorecard
KPI	Key Performance Indicator
KPM	Key Performance Measures
MA	Management Accounting
MBO	Management by Objectives
MC	Management Control
MCS	Management Control System
OC	Organizational Control
OE	Organizational Effectiveness
OKR	Objectives and Key Results
PA	Performance Appraisal
PM	Performance Management
PMS	Performance Management System
SPM	Strategic Performance Management
SPMS	Strategic Performance Management System

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1. Introduction

“What gets measured, gets managed.”

Case D Company Report

Performance management (PM) is defined as a "continuous process of identifying, measuring, and developing the performance of individuals and teams and aligning their performance with the strategic goals of the organization" (Aguinis, 2013, p.2). Therefore, it is essential to corporate strategy (Franco-Santos, Lucianetti & Bourne, 2012; Neely, Richards, Mills, Platts & Bourne, 1997). In response, academics and practitioners have devoted increasing attention to developing multidimensional performance management systems (PMS). Over the years, research has emphasized the role of PMS as an instrument to improve strategy development and implementation (Perera, Harrison & Poole, 1997).

Nowadays, companies place a strong emphasis on implementing and using PMS to deal with the challenge of managing employees' performance. Such a system as the PMS, by its inherent nature, is subject to high complexity. Therefore, companies use reductionist approaches to cope with this complexity. For example, relying on PMS tools such as the Balanced Scorecard (BSC) helps in generating clarity and focus to exercise PM more effectively and efficiently. However, this approach limits the potential for further PMS effectiveness through the system-reducing measure. What if such PMS design and usage limit managers' awareness instead of uncovering further potential?

Accordingly, the systemic value created by the design, usage, and consideration of the PMS provides insight into the PMS's effectiveness and, thus, the organization's performance. We believe that the effectiveness of the PMS could be enhanced by managerial awareness of improving the fit of its systemic parts that mediate performance. To achieve PMS effectiveness, a coherent overall system seems to be critical to minimizing gaps between the strategic priorities and its measurement practices (Ittner, Larcker & Randall, 2003).

1.1. Problematization

Considering that 70 percent of PMS implementation and usage projects fail (De Waal & Counet, 2009), companies deal with unintended negative consequences (e.g., information manipulation, organizational ineffectiveness, and ossification). This is since the PMS is misguidedly considered, designed, and used. It can be assumed that organizations' PMS are

not properly aligned and thereby mainly consist of isolated practices (Bretz & Milkovich, 1992; Schleicher, Baumann, Sullivan, Yim, 2019). Despite numerous studies evidencing the importance of alignment in companies' PMS, incongruent structures prevail in which PMS strategies are not adequately linked to organizational goals (Biron, Farndale & Paauwe, 2011). In addition, studies on PMS effectiveness suggest that it typically lags and, thus, it cannot respond to new contexts and be resilient (Bititci, Garengo, Dörfler & Nudurupati, 2012). Melnyk, Bititci, Platts, Tobias and Andersen (2014) question if it appears obsolete when strategy and PM are only weakly aligned.

Furthermore, PMS struggles to work as an entire system. In particular, by considering that PMS is shaped by organizational factors (Silvi, Bartolini, Raffoni & Visani, 2015) or adequately interacts with its environment (Okwir, Nudurupati, Ginieis & Angelis, 2018), it is even more challenging to reach PMS effectiveness. As Ashby (1956) and Armstrong (2019) mention, the potentially infinite number of elements that interact in the design of PMS to produce outcomes complicates the ability of researchers to isolate and elucidate the contribution of PM mechanisms. The complexity of the interrelationships and interactions within the system and its environment contributes to the failure to develop universal best practices in PMS design (Okwir et al. 2018; Schleicher, Baumann, Sullivan, Levy, Hargrove, Barros-Rivera, 2018). PMS adapting to contingent forces at unsustainable rates are at risk of becoming internally inconsistent, contradictory, and incongruent (Otley, 2016). In contrast, systemic value is captured through the notion of fit, that is, reflecting coherency, alignment and consistency (see Chapters 2.2 and 5.2).

To produce more future-oriented research results that address rapid change, increasing complexity, and uncertainty, Demartini and Taticchi (2021) call for applying diverse theories on PMS, as it could take a distance from the PMS research field concerning the past. To study PMS holistically, Armstrong (2019) suggests applying interdisciplinary theories so that PMS research can respond coherently to the complexity that is a central challenge for PMS in practice. There is a gap in research regarding how the control system elements of the PMS should be interlocked in their formulation to better address more turbulent environments, achieve consistency, and improve organizational effectiveness (OE). Schleicher et al. (2018, p.2238) point out that "there is much work yet to be done in developing a comprehensive, conclusive, and systems theory-grounded body of scientific knowledge about PM systems that can better inform PM in practice". The authors argue that a system-based view of PM

strategy is unequivocally crucial to theory and practice. However, researchers note the difficulty of PMS literature in bridging the empiricist-theorist gap (Merchant & Otley, 2020).

In sum, although researchers have examined a wide range of topics to illustrate the complexity and holistic nature of PMS design, implementation, use, and review (Bourne, Mills, Wilcox, Neely & Platts, 2000; Chenhall & Langfield-Smith, 1998; Goold & Quinn, 1990; Ittner, Larcker & Randall, 2003; Neely, 1999), to our knowledge, it seems that managers are unaware of how PMS is interrelated, thus its systemic value. This, in turn, limits its use as a diagnostic technique rather than reflecting the complexity, effectiveness, and systemic potential of PMS (Schleicher et al. 2018). This lack of reflection on implemented non-systemic PM exposes companies to a lock-in effect due to self-reinforcing processes and path-dependencies (Milgrom, Qian & Roberts, 1991; Sandelin, 2008), undermining companies' ability to achieve strategic goals (Johnson, 2007). Under this context the concept of lock-in illustrates negative path-dependent conduct, rigidities and an inability to be resilient (see Chapter 2.2.4). It, therefore, presents an opportunity to explore how managers can become more aware of the systemic value of PMS to make appropriate decisions to achieve OE (Greener, 2004). Focusing on managers as key participants for PMS is aligned with Schleicher et al. (2018) suggestion referring to the manager's role as enactors of PM and their capacity to portray the entire PMS.

1.2. Research Question and Purpose

Based on the background and problematization, this research study draws on the systemic value in terms of PMS. Specifically, this study endeavors to explore how managers comprehend the systemic value of a company's PMS. The systemic value of PMS is determined by three pillar classifications, namely PMS design, usage and consideration, according to Bourne et al. (2000) PMS life-cycle phases (see Figure 1).

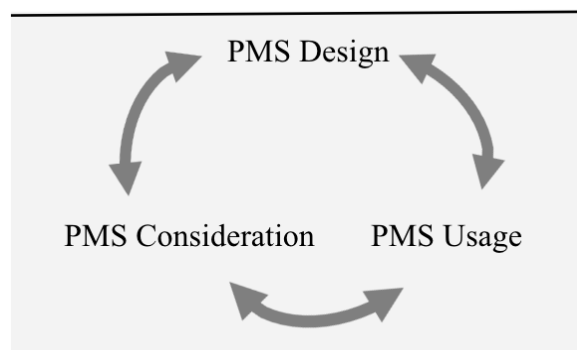


Figure 1: Approach to Analyze Systemic Value of PMS

Consequently, this study addresses the following research question:

How is PMS designed, used, and considered from a system-based view within companies?

For clarification, we will briefly describe the aim of analyzing the three pillar classifications according to Bourne et al. (2000) PMS life-cycle model. By examining the PMS design, we intend to investigate which categories of the PMS system are considered and how they interact with each other. The analysis aims to examine PMS characterization based on its systemic composition. Hence, we intend to accomplish a comprehensive understanding of key factors that shape and establish an organization's PMS. Focusing on PMS usage provides an understanding of how companies use PMS in their daily working routine and how performance control is exercised. Analyzing PMS consideration provides insights into managers' awareness and reflection on the systemic value of PMS and its effectiveness.

The research question will be addressed by conducting a multiple-case study comprising eight independent companies operating in the technology industry. The analysis of PMS design, usage, and consideration will be conducted from a system-based perspective determined by a theoretical framework composed of five different lenses on PMS. This analysis is targeted to reflect on managers' awareness of the systemic value of PMS. Furthermore, it aims to understand the underlying systemic drivers of PMS effectiveness and what circumstances diminish it to provide practical recommendations on how managers can promote their awareness of the systemic value of PMS, thus increasing PMS effectiveness. Further methodological details for this thesis are presented in Chapter 3.

1.3. Contributions of the Thesis

A major contribution of this thesis is the provision of insight into how managers realize the systemic value of PMS. It draws the attention of scholars and practitioners to the fact that recognizing and adequately managing systemic PMS can increase its effectiveness and, therefore, organizational success. In alignment with Choi (2020), this asymmetric priority between practitioners and theorists refers to systemic PMS being absent in practice but relevant for theory testing.

In parallel, this research study rescues and dives into the reflection phase (i.e., awareness or consideration) of the PMS life-cycle proposed by Bourne et al. (2000), but which was overlooked by numerous subsequent research (e.g., Okwir et al. 2018; Ittner, Larcker & Randall, 2003; Chenhall, 2006; Franco-Santos et al. 2012). Hence, we argue that awareness is

as important as the design, implementation, and usage phases of PMS. Likewise, we contribute to signaling the underlying problems broadening the theory-practice gap. Notably, companies view their PMS first as structures, then as systems or packages, thereby failing to consider PMS design, and usage in a system-based manner.

Hence, this study contributes to providing practitioners with a theoretical framework that supports raising their awareness of the systemic value of PMS and thereby recognizing its systemic value as well as better navigating them through the challenges arising in the context of PMS design usage, and consideration. By applying the theoretical framework based on five theoretical lenses, we attempt to address the systemic nature of PMS. This is necessary as a system can just be analyzed systematically. This thesis contributes to the literature on PMS while delimiting them through various key theories that drive systems behavior and systemic value. As a response to Armstrong (2019), such a mix of interdisciplinary theoretical lenses on PMS (as outlined in this study) to comprehend the systemic value of PMS is missing in the literature.

1.4. Outline of the Thesis

The remaining chapters of this thesis are structured as follows.

Chapter 2: Literature Review recapitulates the theoretical background of PMS and the theoretical framework developed for this thesis.

Chapter 3: Methodology describes our empirical study and gives supporting argumentation of our method-related decisions that compose our research design. It covers research methods, data collection processes and the data analysis approach.

Chapter 4: Empirical Findings and Analysis presents and explores our empirical multi-case study findings regarding PMS design, usage, and consideration. Meaning, that it is the basis for further developing and solving our research question.

Chapter 5: Discussion exhibits a reflection regarding the theoretical background as it cross-references empirical findings with findings from the literature review.

Chapter 6: Conclusion includes research resolutions, theoretical and practical implications and states the contributions of the research thesis. It closes by mentioning this study's limitations and relevant suggestions for future research.

2. Literature Review

This chapter aims to define the substantive research area and outline the current state of theoretical knowledge. Since this study covers several topics, for example, explicitly addressing the characteristics of PMS and its effectiveness, this literature review is organized thematically.

Our narrative literature review is divided into two sections. First, we critically review PMS in terms of its evolution, as well as its design categories and characterizations. Also, we elaborate on the discussion between systemic PMS and what the literature states about PMS effectiveness. Second, we convey systemic value and systems behaviors of PMS through a multidimensional perspective. Thus, we establish a theoretical framework for examining PMS using five system-based theoretical lenses.

2.1. Performance Management System

To properly introduce the notion of PMS, the following section aims to construct a more comprehensive theoretical understanding.

2.1.1. Evolution & Expressions of PM

The diverse expressions associated with PM stem from a heterogeneous interpretation of control (Copley, 1923; Giglioni & Bedeian, 1974). As Hofstede (1967) points out, these variances surge from a semantic ambivalence. Consequently, little general acceptance of control's principles exists, reflecting in an equally elusive definition of performance, which shifts according to circumstance, user-perspective, and purpose (Lebas, 1995; Anthony, 1995). Further, this creates difficulty for practitioners to turn for guidance (Jerome, 1961; Mockler, 1967). Appropriately, a need to ground research through an overview of its evolution becomes evident.

Management accounting (MA) draws from accounting literature and is considered a form to exercise budgeting control based on three fundamental roles: scorekeeping, controlling, and business support (Järvenpää, 2007; Chapman, 1997). Moreover, MA's functions are best aligned with decision-making, attention-directing, and scorekeeping. Despite a multitude of characterizations identified, typological MA literature is perceived as non-exhaustive in its activities, roles, and functions (Chang, Ittner & Paz, 2014).

Furthermore, control grows in complexity as agency problems arise, namely that of residual loss, shirking costs, and the separation from ownership (Williamson, 1998; Berle & Means, 1932; Fama & Jensen, 1983). As Williamson (1998) and Jensen (1983) suggest, agency literature is concerned with issues of efficient risk-bearing, monitoring and bonding of the set of contracts. Since Johnson and Kaplans' (1987) seminal work on the vanishing relevance of MA, researchers have opted for less lagging and aggregated ways of supporting managers' planning and control decisions. Thereby, analysis of control through an organizational and managerial lens drives two additional expressions of PM: organizational control (OC) and management control (MC).

On a general note, OC refers to the cooperative and coordinated actions targeted to attain individual objectives on behalf of the organization (Demartini, 2014; Cyert & March, 1992). Whereas organizations are agent-dependent to obtain results and exercise control using horizontal and vertical hierarchies. According to Arrow (1964), the roles of OC rely on its accountability structures (i.e., operating rules) and its behavioral aspects (i.e., enforcing rules) to motivate employees to deliver expectations.

Taking one level of granularity downwards resides MC, managerial discretion, agency, and the idea of partners are key (Hewege, 2012). Under this context, control is considered one of the principal functions of management and supervision (Church, 1914), where alignment prevails (Fayol, 1949) and resources are used effectively and efficiently (Anthony, 1965). The allocation of resources to obtain results also refers to the collaborative, forward-looking, and strategic orientation that constitutes MC (Granlund & Lukka, 1998). Hence, MC opens discussion on the systemic implications of process linkages (Anthony, 1988); however, it often lacks internal consistency (Ferreira & Otley, 2009; Otley, 2003).

The following expression refers to performance appraisal (PA), considered a subset of PM (Levy, Tseng, Rosen & Lueke, 2017). PA branches out of human resources as it provides managers and organizations the ability to rate individuals and teams regarding their performance and contribution (Apak, Gümüş, Öner & Gümüş, 2016). Nevertheless, PA is neither necessarily nor clearly linked to strategy. Instead, it serves as a function to manage performance behavior (Espinilla, de Andrés, Martínez & Martínez, 2013).

The four above-noted expressions anchor the discussion on PM. As Peters and Waterman (2008), Otley (1999) and Lorange, Morton and Gashal (1987) observe, the notion of strategic control and a shift of control-focus motivated a transition from the measurement of

performance into that of the management of performance. This highlights how PM branches out of Anthony's (1965) long-term vision of strategic planning, goal achievement, and behavior-modeling. Further, Bredmar (2012) and Lebas (1995) describe PM as a holistic expression of control, driven by internally consistent mechanisms that acknowledge causality between its parts. Hence, literature on PM evolution showcases a volatile concept that is constantly changing in breadth and value.

2.1.2. PMS Tools & Categories

There is a diverse set of multidimensional tools and categories that comprise PMS (Otley, 1999; Ferreira & Otley, 2009; Schleicher et al. 2018). For further precision throughout this thesis paper, the notion of tools and categories will be clarified.

Hereafter we refer to PMS tools as the framework mechanisms that strengthen alignment and usage (e.g., dashboards and strategy maps). Meanwhile, PMS categories are subsystems directly derived from the so-called questions suggested by Ferreira and Otley (2009), namely, key performance measures (KPM, also referred to as KPI), target setting, performance evaluation, reward systems, use of control as well as strength and coherency. We have selected these categories out of the complete list proposed by the researchers due to their relevance to our thesis, as well as to the semi-structured interviews present in our primary data. Consequently, a non-exhaustive overview of these taxonomies will be explained.

PMS Tools

PMS framework tools strengthen alignment between strategy, objectives, and decision-making. Most notably stands Kaplan and Nortons' (1992) BSC as "a comprehensive framework that can translate a company's vision and strategy into a coherent and linked set of performance measures" (Kaplan & Norton, 1996, p.55). As Demartini (2014) expresses, the main advantages of the BSC tool relate to its customization capability, its capacity to provide multidimensionality, and a tight performance-strategy relationship. Nonetheless, criticism of the tool refers to its predominant top-down direction and difficulty in assessing the tool's true impact on performance (e.g., Neely, 2008; Kraus & Lind, 2010).

Complementary tools that have used the BSC as a source framework are the corporate BSC (CBSC) and the strategy map, the latter being a visualization tool that embeds items of the BSC into a cause-and-effect chain (Kaplan & Norton, 2000). Additional PMS tools that are growing in popularity as subjects of study and practice correspond to objectives and key

results (OKR) (Niven & Lamonte, 2016), management by objectives (MBO) (Drucker, 1974; Rodgers & Hunter, 1991), and business intelligence (BI) dashboards (Conti, 2007; Yigitbasioglu & Velcu, 2012).

PMS Categories

In this thesis study, we will consider six PMS categories mentioned by Ferreira and Otley (2009) in their PMS framework model. Also, we will elaborate on definitions of each PMS category as well as its characterization, that is, its functioning elements (see Table 1).

No.	Category	Definition	Characterization
Q5	Key Performance Measures	Key performance measures (KPMs, also referred to as KPIs) derive from their objectives, KSF or strategies, and are of financial or non-financial nature (Bititci et al. 2012; Venanzi, 2010). Additionally, Kaplan and Norton (1996) recommend a maximum of 25 KPIs to properly drive subordinate behavior and align individuals.	Financial, non-financial and value-based KPIs. Traditional and behavioral. Lagging and leading indicators.
Q6	Target Setting	Target setting must be achievable, challenging, and highly related to evaluation and reward strategies (Ittner & Larcker, 1997; Otley, 1999).	Financial and non-financial targets. SMART targets.
Q7	Performance Evaluation	Performance evaluation and review represents the informal and formal processes employed to exercise control, and performance benchmarking and is influenced by strategically linked measures (Banker, Chang & Pizzini, 2004).	Cross-unit, team and 1:1 meetings. Benchmarking, feedback loop, learning, monitoring and informative.
Q8	Reward Systems	Reward systems are the compensation packages that arise from surpassing expectations and take into consideration incentives, motivations, and contributions (Bonner & Sprinkle, 2002; Cerasoli et al. 2014).	Cash, non-cash, tangible and non-tangibles. Extrinsic and intrinsic. Direct and indirect performance-salient.
Q10	Use of Control	The use of PMS refers to the types of control exercised in the organization, its direction, and the associated levers of the control system (Simons, 1995; Ahrens & Chapman, 2004).	Belief system, boundary system, diagnostic control system and interactive control system. Enabling and coercive control.
Q12	Strength and Coherence	Strong coherence refers to the strength of the links between the components and evaluates the systemic value of the PMS (Chenhall, 2003; Ferreira, 2002; Ferreira & Otley, 2009). Thus, manifests the notion of fit (Venkatraman, 1989).	Congruence (or coherency), alignment and internal consistency.

Table 1: *Definition of the PMS Category and its Characterization*

Considering PM's evolution, it is suitable to start by illustrating Ferreira and Otley's measurement category. As Johnson and Kaplan (1987) and Otley (1999) note, the field's dependency on accounting measures and a striking absence of non-financial measures showed signs of erosion in its timeliness towards decision-making and thereby distorted the manager's outlook. To offset these issues, non-financial and value-based measures were introduced to allow a comprehensive view of performance drivers and leading indicators.

Furthermore, performance evaluation, target setting, and rewards systems are key PMS categories that support managers in influencing employee behavior to achieve organizational objectives. Thus, as Kerr (1995) claims, rewarding desired behavior increases goal congruence between individual and organizational objectives. Companies need to design their reward systems according to a set of characterizations: reward type (e.g., non-cash tangibles or cash intangibles), performance type (i.e., quality-task or quantity-tasks), incentive

contingency (e.g., indirect performance-salient) and incentive types (e.g., extrinsic or intrinsic motivation) (Cerasoli, Nicklin & Ford, 2014). Failing to adequately set a firm's reward system may crowd out intrinsic motivation (Frey & Osterloh, 2005; Barnes, Hollenbeck, Jundt, DeRue & Harmon, 2011). In addition, evaluation and review are also attributed to generating rhythm of business, feedback-loop learning, and benchmarking to organizational targets (e.g., Argyris & Schön, 1978).

The use of control category refers most specifically to the work of Simons (1995) and Ahrens and Chapman (2004). The levers of control framework represent opposing forces and tensions "between freedom and constraints, empowerment and accountability, top-down direction and bottom-up creativity, experimentation and efficiency" (Simons, 1995, p.4 in Tessier & Otley, 2012). Thus proposes four types of control, two of which are framed as positive (i.e., belief systems and interactive systems) and the remaining as negative (i.e., boundary systems and diagnostic control systems) (Simons, 1995; Tessier & Otley, 2012). Based on Adler and Borys' (1996) two contrasting types of formalization in bureaucracies, Ahrens and Chapman (2004) propose their interpretation of coercive (e.g., limiting latitude of action) and enabling (e.g., recognizing employees' capacity to deal effectively with contingencies) types of control.

To conclude, PMS categories and their corresponding characterizations are significantly multidimensional, potentially non-hierarchical, complementary, and somewhat imprecise.

2.1.3. Spectrum of Systemic PMS

A comprehensive and systemic PMS is formally defined by Choong (2014), who argues that the conception varies depending on the source (e.g., researcher or practitioner) and the context. Nonetheless, it stands the following:

“PMS are concerned with defining, controlling and managing both the achievement of outcomes or ends as well as the means used to achieve these results at a societal and organisational, rather than individual, level” (Broadbent & Laughlin, 2009, p.283).

In parallel, Hopen (2004) and Otley (1999, 2001) define PMS as an umbrella-esque mechanism used to make explicit means-end relationships to carry out strategic intent, evaluate performance and lead to organizational success.

Due to conceptual ambiguities being latent throughout PMS literature, we identify a need to clarify that a transition exists from the concept of PM into that of a system-based view of PM or PMS (e.g., Choong, 2014; Srimai, Wright & Radford, 2011, 2013). Further, as Demartini (2014) and Schleicher et al. (2018, 2019) infer, a systems approach to PMS is mostly taken for granted in PM and PMS literature. Therefore, we will hereafter refer to ‘PMS systems’ when explicitly indicating a system-based view of PMS. Considering the key objective of this literature review to provide explicit system-based definitions of PMS this thesis comprehension of PMS systems is aligned with that of Ferreira and Otley (2009) and Schleicher et al. (2018).

First, Ferreira and Otley (2009, p.266) argue that PMS systems reflect “a shift from the traditional compartmentalised approaches to control in organizations ... to a broader perspective of the role of control in the managing organizational performance”. Thereby, PMS systems aim to explicitly integrate various dimensions of control systems while being internally consistent, that is, recognizing interdependencies and cause-effect sequences. Thus, PMS systems' underlying intention is to assist organizations in describing their operations and supporting their reasoning for such control configurations. As Collier (2005) and Broadbent and Laughlin (2009) argue, Ferreira and Otley's (2009) PMS framework is structured, holistic, and proposes twelve PMS categories (see Appendix A).

Second, Schleicher et al. (2018) present a system-based model of PM that follows two purposes: i) it offers a taxonomy for organizing the myriad variations of PMS, and ii) provides a conceptual framework to understand PMS effectiveness (see Appendix B). The authors consider systems theory principles to better portray how characterizations within the model interact. The authors state, in alignment with Katz and Kahn (1978), that a system in the context of PMS refers to a set of interrelated characterizations in which effects of change reflect in other constituent parts. Thereby, interrelated categories of a PMS system are designed to function together to achieve a common purpose that is not attainable by each part on its own (Boulding, 1956; Bourne, Franco-Santos, Micheli & Pavlov, 2018; Reichtin, 1991). Schleicher et al. (2018) identify that PMS systems are congruent, dynamic, and capable of attaining equifinality. What is more, the authors describe the notion of equifinality as the principle in which systems can reach an end state by various, and often differing, means. Nonetheless, other researchers indicate that PMS systems typically lag and have difficulties becoming resilient to emerging contexts or uncertainty (Bititci, Garengo, Dörfler & Nudurupati, 2012; Melnyk et al. 2014; Nudurupati, Tebboune & Hardman, 2016). Further,

managers are required to rethink their PMS systems and control usage depending on the PMS' life-cycle (i.e., design, implementation, use, and reflection) to better traverse complexity (Okwir et al. 2018; Bourne et al. 2000).

PMS as a System or as a Package

Concerning the system-based view of PMS and as a critique of the literature's reductionist approach to PMS, there is a debate among researchers about PMS as a system or as a package. “[T]heorists have put forward the systems approach to contingency theory and empiricists have begun to examine combinations of [PMS] practices that form packages or systems” (Grabner & Moers, 2013, p.407).

As aforementioned, the perspective on PMS as a system is mainly characterized by PMS categories that do not operate in isolation (Malmi & Brown, 2008). Therefore, design choices for PMS as a system consciously consider interdependencies (Grabner & Moers, 2013) and use complementarity (Fanco-Santos & Otley, 2018; Demartini & Otley, 2020) because the theory explicitly tries to maximize performance by (simultaneously) deciding on multiple-choice variables. Thus, if a PMS is viewed as a system, all categories are expected to encompass interdependency. Further criteria are going to be presented in Table 2.

In contrast to PMS systems, the package perspective on PMS represents the entirety of categories that compose the PMS, regardless of interdependence and design choices. This perspective has been mainly shaped by Otley (1980, p.422), who states: "It is often impossible to separate the effect of an [accounting information system] from other controls; they act as a package and must be assessed jointly". This ambiguity and inconsistency in the definition and function of linkages (e.g., Merchant & Otley, 2007; Ferreira & Otley, 2009; Covaleski, Evans, Luft & Shields, 2003; Otley, 1999) was pivotal in Malmi and Browns' (2008) call for a holistic view of all individual implemented systems and developed a framework supporting this systemic approach (see Appendix C). Therefore, viewing PMS as a package relativizes the requirement of a PMS as a system of all PMS categories being interdependent. Nevertheless, this perspective examines the systemic value of PMS.

A PMS as a package builds on the core idea that single categories of PMS are interconnected but are not necessarily interdependent. Therefore, a PMS can be subdivided into subsystems, such as a budget control or a reward system. The necessity of the package view is reasonable, considering that different people usually develop several PMS categories at different times

(Ferreira & Otley, 2009). Considering PMS packages explicitly calls attention to analyzing how the PMS characterizations interlock when introduced (Mundy, 2015 cited in Otley, 2016). Moreover, informal control practices can significantly impact the change and stability of the PMS if they can deliver desired results (Sandelin, 2008). Cooper, Ezzamel, and Robson (2019) criticize the PMS package view claiming that it is not helpful since it seeks to emphasize a large number of interconnections and increases complexity. Further, Grabner and Moers (2013) conclude that the package view seems to pay limited attention to the phenomena often observed in practice that the characterizations of an overall control system may not be well-integrated or coordinated. Malmi and Brown (2008) admit various difficulties with their framework's technique and clarify that the tool's conceptual design is meant to serve as a guide to trigger further research on PMS packages (Otley, 1980).

As scholars elaborate, PMS has differences depending on whether it follows a system or package approach and should not be interchanged inadvertently (see Table 2).

Category	PMS Systems	PMS Packages
Characteristics		
<i>i</i>	Practices are interdependent (Grabner & Moers, 2013; Milgrom & Roberts, 1995) and do not operate in isolation (Malmi & Brown, 2008)	<i>i</i> Represent a multidimensional arrangement of control practices (Grabner & Moers, 2013; Malmi & Brown, 2008; Bedford & Malmi, 2015)
<i>ii</i>	Design choices take interdependencies into account (Grabner & Moers, 2013) and uses complementarity (Fanco-Santos & Otley, 2018; Demartini & Otley, 2020)	<i>ii</i> Resembles a system of a systems approach (Okwir et al. 2018)
<i>iii</i>	Favors core-structures with tightly coupled linkages (Bedford, Malmi & Sandelin, 2016; Fiss, 2011), but can also be connected intermittently (Cooper, Ezzamel & Robson, 2019)	<i>iii</i> Interdependency and complementarity are not an imperative (Grabner & Moers, 2013)
<i>iv</i>	Have a tendency for path-dependent behaviors (Demartini & Otley, 2020)	<i>iv</i> Practices are mostly independently related to outcomes (Bedford, Malmi & Sandelin, 2016)
<i>v</i>	Are integrated and coordinated (Merchant & Otley, 2020)	<i>v</i> Linkages tend to resemble loosely coupled peripheral structures (Otley, 1980; Demartini, 2011; Demartini & Otley, 2020; Ferreira & Otley, 2009; Fiss, 2011)
<i>vi</i>	Systems overlap evidencing redundancy (Srimari, Wright & Radford, 2013)	<i>vi</i> Acknowledges that equilibrium is hardly attainable (Franco-Santos & Otley, 2019)
<i>vii</i>	Offers richer vocabulary and concepts than those supplied by packages (Cooper, Ezzamel & Robson, 2019)	<i>vii</i> Understanding PMS packages can inform the analysis of PMS systems (Bedford, Malmi & Sandelin, 2016)
Criticism and Opposition		
<i>i</i>	Interrelatedness does not ensure coherency (Ferreira & Otley, 2009; Merchant & Otley, 2020)	<i>i</i> Investigating packages still requires understanding the systems within the packages (Grabner & Moers, 2013)
<i>ii</i>	Interdependencies are dependent on the firm's strategic context (Bedford, Malmi & Sandelin, 2016)	<i>ii</i> Packages perspective is ill-suited to examine relationships between practices (Grabner & Moers, 2013)
<i>iii</i>	Systems are unlikely to provide a complete understanding of viable PMS alternatives (Dent, 1990; Bedford, Malmi & Sandelin, 2016)	<i>iii</i> Packages are unhelpful to understand context due to over-reliance in loose coupling and lack of redundancy (Cooper, Ezzamel & Robson, 2019)
<i>iv</i>	System components are not always tightly coupled (Demartini & Otley, 2020)	<i>iv</i> Has difficulty to be drawn upon different organizational actors (Cooper, Ezzamel & Robson, 2019)
<i>v</i>	Design in systems is not a one-off event, rather a continual unstable process of adaptation and re-design (Merchant & Otley, 2020)	
<i>vi</i>	PMS systems are unsuccessful in bridging the practice-theory gap (Malmi & Brown, 2008)	

Table 2: Summary of Characteristics and Criticism for PMS Systems and PMS Packages

Demartini and Otley's (2020) shift away from the dichotomy between PMS as a system or as a package and argue for a continuous approach, portraying them as a spectrum based on PMS categories' degree of coupling. Although characteristics differ, using one perspective to complement the other instead of referring to it as a substitute can promote a more coherent

systemic understanding of PMS (e.g., Bedford, Malmi & Sandelin, 2016). Merchant and Otley (2020) argue that due to PMS complexity and its specific context, the "[d]isequilibrium is probably the norm, and optimality [it is] impossible to define" (Merchant & Otley, 2020, p.4). In addition, their argumentation is conclusive in that "any set of control practices within an organization is more likely to have the form of a 'package' rather than a totally coherent 'system'" (Merchant & Otley, 2020, p.3).

2.1.4. PMS Effectiveness

The understanding of what makes a PMS effective is, according to Schleicher et al. (2019), determined by the goal of the PMS as well as the question in what sense effectiveness can be mediated. These determinations, what PMS effectiveness means for the particular organization and how it is to be achieved, are related to strategic considerations of what objectives the organization is pursuing. Oghojafor, Muo, and Aduloju (2012) explicitly point out that organizational effectiveness (OE) is an ambiguous and complex concept without clear definitions (Rodsutti & Swierczek, 2002). Typically, managers consider the following effects while promoting PMS in their firms (Ferreira & Otley, 2009): communication (Godener & Soderquist, 2004), corporate control (Cruz, Scapens & Major, 2011), accounting performance (Ittner, Larcker & Randall, 2003), and strategic alignment (Ahn 2001; Dossi & Patelli, 2010).

MA researchers and several studies illustrate the pivotal role of strategic alignment with the PMS for reaching PMS effectiveness (Cadez & Guilding, 2012; Langfield-Smith, 2005). Organizations rely on strategic performance management (SPM) to translate and break down strategy into performance measures and follow its strategy as an entire organization (Chenhall, 2005). The strategic connotation has fundamental implications for PMS usage at multiple organizational levels and thus PMS effectiveness. Bento and Ferreira (2010) present three key characteristics that strategically align a PM system: i) use of financial metrics for decisions (Kaplan & Norton, 2001); ii) complements with non-financial metrics for assessing the outlook; and iii) questions strategic assumptions (e.g., cost structures, value creation, strategy execution) (Gimbert, Bisbe & Mendoza, 2010). In particular, PM is aligned strategically if the "inclusion of multi-perspective indicators and cause-effect linkages in the design of the [SPM system] are factors of primary importance" (Micheli & Manzoni, 2010, p.469). Additionally, reaching cause-effect linkages between strategy and performance requires identifying and measuring variables influencing value creation and strategic success.

Schleicher et al. (2019) present several mediating variables for PMS effectiveness as organizations do not understand how PMS can be influenced. Hence, PMS characterization linkages are complicated to identify (e.g., DeNisi & Murphy, 2017; Pulakos & O'Leary, 2011; Gong & Ferreira, 2014). Furthermore, research shows that PMS outcomes are strongly mediated through employees as PMS characterizations first detached employees' perceptions (Den Hartog, Boselie & Paauwe, 2004). Another mediating aspect of PMS effectiveness predominantly elaborated in literature is learning (Schleicher et al. 2019). Employees learn through PMS, particularly regarding attitudinal and motivational learning, and may use what they have learned to enhance their attitudes and performance. De Waal, Kourtit, and Nijkamp (2009, p.1246) add several qualitative benefits of SPM, such as closer collaboration and knowledge sharing.

However, researchers have found common negative side effects of PMS, such as fixation measurement, myopia, gaming, and data manipulation (Bevan & Hood, 2006). PMS design where goal alignment and goal uncertainty vary significantly between the 'assumed' reality and the 'actual' situation results in unintended consequences and poor outcomes (Franco-Santos & Otley, 2018). The authors investigate these negative effects and justify them concerning causes such as ignorance, mistake, short-term worries, core beliefs, self-fulfilling prophecies, and changes in social interactions. In particular, strategically aligned PM has also been criticized for several effects, such as encouraging perverse behaviors, stifling innovation and learning, and having little effect on decision-making processes. Further, SPM can also lead to organizational rigidity and slow the organization's ability to adapt to changing circumstances (Bititci, Turner & Begemann, 2000).

2.2. Theoretical Dimensions of Systemic Value

Scholars of organizational theory argue that organizational outcomes are based on a function of 'fit' or coalignment between two or more factors (Child, 1975; Drazin & Van de Ven, 1985; Etzioni, 1961). Reaching fit is explicitly linked to performance (Gupta & Govindarajan, 1984), as strategy relates to the appropriate matching of resources and capabilities to opportunities and obstacles (Venkatraman, 1989). Venkatraman (1989, p.441) considers the dynamic perspective of fit in that "no organizational system is in a state of perfect dynamic coalignment, but every organization is moving toward this state". Although the concept of fit is an essential and useful one for research and practitioners, it "lacks the precise definition

needed to test and recognize whether an organization has it or not" (Galbraith & Nathanson, 1979, p.266).

Consequently, the rest of this chapter will develop a multidimensional framework of five theories designed to apprehend the notion of fit and drive discussion on systemic value. Hence, each theory will operate as a theoretical lens for PMS examination. First, we will use systems theory to define the concept of systems and represent its characteristics, behaviors, and typologies. Then, leveraging complementarity theory aims to exemplify internal consistency and the payoff functions along with cause-effect sequences. Third, expanding on contingency theory directs the focus on circumstance and context. Fourth, path-dependency theory will frame the concept of direction and illustrate the unintended consequences that arise from lock-in. Lastly, we will employ complexity theory to give insight into the importance of acknowledging dynamism and complexity.

We identify from our theoretical lenses that three are part of traditional MC theories, namely, systems, complementarity, and contingency, while the remaining two illustrate managers' difficulty reaching effectiveness due to lock-in and complexity, respectively.

2.2.1. Systems Perspective on PMS

According to Ritzer (2007), in its abstract sense, a system refers to a set of objects that generate relationships among its objects. Meanwhile, Sauser, Boardman, and Gorod (2008, p.5) state that a system "is a collection of parts and their interrelationships assembled together to form a whole for a given purpose". Withal systems theory is a subset of organizational theory (Otley, 2003; Kichigina, 2017).

There is a significant body of studies that intends to provide systems theory requirements and principles. For instance, systems theory disputes reductionism and instead promotes holism by focusing on a whole's composition of arrangements and subsequent relations between its parts (Baldwin, Boardman & Sauser, 2013; Grabner & Moers, 2013). Thus, systems theory "emphasizes interdependencies, interconnectedness and openness" (Kichigina, 2017, p.46). In addition, Bourne et al. (2018), Sauser, Boardman and Gorod (2008), and Baldwin, Boardman and Sauser (2013) contribute to systems theory by defining characteristics essential to systems. The five attributes are i) autonomy (i.e., ability to make independent choices); ii) belonging (i.e., cascading relationship driven by a shared mission); iii)

connectivity (i.e., type of linkages' relationship); iv) diversity (i.e., heterogeneity of its constituent parts and perspectives); and v) emergence (i.e., the appearance of new properties).

Researchers have addressed behaviors of systems, namely, those referring to link typologies, network taxonomies and information-bound constraints (e.g., Wu, 2005; Julong, 1989; Billand, Bravard, Kamphorst & Sarangi, 2017), namely, bilateral linkages (Jackson & Wolinsky, 1996) and unilateral linkages (e.g., two-way flow or one-way flow models) (Bala & Goyal, 2000). Moreover, the notion of connectedness drives the debate on the types of networks present in systems. Networks can be tighter leveraging causality (Lebas, 1995; Demartini, 2014) or loosely coupled if elements are responsive, but each maintains its own identity (Weick, 1976).

As a consequence of systems theory recognizing systems complexity, transgression of a system's boundaries, and utilizing synergies between systems, the term systems of systems emerged (Sausser, Boardman & Gorod, 2008; Kichigina, 2017). A system of systems is defined as an integrated "metasystem, composed of multiple embedded and interrelated autonomous complex subsystems" (Keating, Rogers, Unal, Dryer, Sousa-Poza, Safford, Peterson & Rabadi, 2003, p.62). The system of systems perspective is driven by the idea that complexity and uncertainty cannot be addressed by a unitary, monolithic systems approach (Bourne et al. 2018).

Systems theory's main contribution is developing methodological and conceptual tools to investigate independencies, multidimensionality, and inter-structural problems (Brüsch, 2019). PMS developments led to the currently dominant approach of systemic PM, prescribed by Carenys (2012) in five characteristics: balance (i.e., between financial and non-financial measures), link with strategy (i.e., tracking metrics based on strategy, strategic goals, and targets), causality (i.e., cause-and-effect relationships promoted by decision-makers), multi-level layers (e.g., corporate, business unit, team, individual), and stakeholder orientation. Therefore, a systems approach allows the progression of cascading influence at various hierarchical levels and follows the underlying assumption that PMS design ideally consists of decision-makers exercising congruent choices to attain organizational goals (Bourne et al. 2018; Demartini, 2014).

2.2.2. Complementarity Perspective on PMS

Complementarity theory was originally introduced by Edgeworth (1881) as a means to explain the phenomenon in which relationships from a set of activities could affect returns in others. In essence, complementarity is often used to suggest that multiple perspectives are important in solving system problems (Clemson, 1991).

The payoff function implies that complementarity is built based on exercising orderly decision-making. Therefore, the impact of complementarity in decisions is classified as complements (i.e., when the benefits of one element or characterization increase with the use of another) or substitutes (i.e., when the benefits of one element or characterization decrease with the use of another) (Grabner & Moers, 2013; Tessier & Otley, 2012; Gerdin, 2005). Choi, Poon, and Davis (2008) propose that the effects of organizational activities and characterization work as mutually complementary when adopted together. In this sense, systems under a complementarity lens “will be greater than the sum of its parts because of the synergistic effects of bundling practices together” (Choi, Poon & Davis, 2008, p.236).

Complementarity theory provides a formal definition of internal consistency between characterizations when: i) interdependencies exist, and ii) the effect between them can be assigned as complements or substitutes (Grabner & Moers, 2013). In turn, as Drazin and Van de Ven (1985) and Chandler (1962) suggest, patterns of organizational structure and processes are internally consistent when characterizations are structured in a way that their interdependencies are desired and congruent (i.e., have fit). Nonetheless, Ferreira and Otley (2009) state that it should not be assumed that all PM structures are coherent.

Furthermore, in complementarity-supported PMS, the notion of direction and intensification comes into play, referring to the movement that tends to escalate (Milgrom & Roberts, 1995). Effects of direction are not only true when driving growth and effectiveness but also that of failure and collapse of a system.

2.2.3. Contingency Perspective on PMS

Contingency theory is a dominant paradigm in the literature on MC design (Dent, 1990; Langfield-Smith, 1997; Chenhall, 2003) and aims to find the match between contingency variables and those which enhance organizational performance (Gerdin, 2005; Teeratansirikool, Siengthai, Badir, Charoenngam, 2013), and the design and implementation

of PMS (Ferreira & Otley, 2009; Kendall & Knapp, 2000). It should be noted that since the empirical data of this thesis refers to internal company information (see Chapter 4), we will focus on internal contingency.

The theoretical assumption of the contingency concept is unifinality, which means that there is no universally appropriate PMS that applies equally to all organizations under all conditions because, among other things, the environment in which an organization operates but also other variables are unique (Cadez & Guilding, 2012). Thus, the characteristics of the system and its effectiveness depend on specific organizational and contextual factors (Otley, 1980; Rejc, 2004; Ferreira & Otley, 2005).

Several limitations in research occurred. Reviewing research shows that the level of analysis complexity classifies literature about contingent control. According to Fisher (1995), the piecemeal nature of contingent control research is its primary shortcoming. Studies mainly investigate only one contingent factor and one control attribute at a time instead of examining the effectiveness of control system design by the interactions between multiple contingent and control factors. Also, studies show correlations or interaction effects and incorrectly assume a fit (Drazin & Van de Ven, 1985).

Despite the limitations of contingency theory, it remains a plausible theory to understand the relationship between contextual variables and PM in a highly complex context (Wadongo & Abdel-Kader, 2014). The above arguments point to the conclusion that PM needs to be examined from a systems approach which examines how contingency variables and multiple aspects of PMS interact in a variety of ways to enhance OE (Selto, Renner & Young, 1995).

2.2.4. Path-Dependency Perspective on PMS

Behavioral theories of OC consider the firm as a basic unit while explicitly emphasizing organizational decision-making and commitment processes as predictors for firm behavior (Cyert & March, 1992; Demartini, 2014). As a result, research to understand path-dependent factors influencing the choice of decision-making among agents emerged (e.g., David, 1985; Arthur, 1988, 1989, 1994; Sewell, 1996, 2005). In this sense, path-dependency theory is part of an institutional perspective relevant for legitimization.

Path-dependency refers to the general idea that “what has happened at an earlier point in time will affect the possible outcomes of a sequence of events occurring at a later point in time” (Sewell, 1990, p.16). However, Djelic and Quack (2007) criticize that such descriptive

accounts of successions generally fail to associate the mechanisms by which constraints are structured or reproduced. Instead, the researchers propose that the notion of path-dependency “suggests that the evolution of institutions, organizations or practices does not necessarily follow a pure logic of efficiency” (Djelic & Quack, 2007, p.163). They emphasize the fact that early decisions may lead to less efficient outcomes. This suggests that decision-makers and organizations are capable of falling into a lock-in effect that does not favor efficiency or performance (De Vries, 2018; De Munck, 2022).

Additionally, sociology and political theory have contributed to path-dependency literature by analyzing the way in which institutions emerge, persist, and resist change (Pierson, 2000). Under this line, path-dependency expresses all factors that lead to organizational inertia (Sewell, 2005). Greener (2004, p.11) goes to the extent of describing path-dependency as “the antithesis of choice, it is the absence of choice, or perhaps even the absence of *awareness* of choice”. Nonetheless, contrary to inertia, path-dependency is assumed as an active process despite contributing to inertia (Djelic & Quack, 2007).

In sum, we identify in the literature a discussion on various PMS factors that contribute to or promote lock-in and path-dependent conduct. Aspects shaping path-dependency behaviors are actors (e.g., agents and organizations), non-human actors (e.g., frameworks and technologies), context (e.g., industry regulations and culture), structure (e.g., monolithic and networks) or organizational intent (e.g., bureaucracy and expected returns). Greener (2004, p.22) emphasizes, “[managers] must become more aware of the non-human actors within their organisations because of their potential for ‘locking’ organisations into path-dependent processes, and the corresponding loss of discretion this can cause later on”.

2.2.5. Complexity Perspective on PMS

Organizations are dynamic, nonlinear, and complex systems whose members shape their behavior through spontaneous self-organization (e.g., Arndt & Bigelow, 2000). This causes increasing internal complexity (Harkness & Bourne, 2015) and thus becomes a potential barrier to PMS effectiveness (Bititci, 2015; Harkness & Bourne, 2015). Therefore, we present complexity theory to better understand how the complexity of PMS arises and could be managed in organizations.

Complexity theory is considered a theoretical lens for understanding and improving organizations in both research and practice (Brown & Eisenhardt, 1997; Fitzgerald, 2002) and

explains how systems develop, adapt, and change, with an emphasis on the system's interaction with its surroundings (Sammut-Bonnici, 2015). Furthermore, Sahin, Vidal, and Benzarti (2013) describe complexity as behavior resulting from the interconnection of subsystems' categories. Most management authors consider the number of intricate interrelationships and institutional structures of complexity when referring to this theory (Pryor, 1996; Stodder, 1995).

Organizations should not try to reduce complexity but rather respond to the complexity they face with more complex strategies, structures, and decision-making processes (Ashby, 1956; Boisot & Child, 1999). Furthermore, it is argued that instead of trying to impose top-down change, organizations should prefer the self-organization approach to keep complex systems on the edge of chaos (Styhre, 2002). Handling complexity is a matter of recognizing and managing the symbiotic relationship between self-organization and the presence or creation of order-forming rules (Bechtold, 1997; Hoogerwerf & Poorthuis, 2002; Tetenbaum, 1998).

Okwir et al. (2018) claim that most PMSs are still not dynamic and resilient to changes in the internal and external environment of the enterprise (Melnyk et al. 2014; Bititci et al. 2012). Also, static PMS hinders the handling of complexity. In summary, Harkness and Bourne (2015) present three implications for practitioners: i) apprehending context in PMS design; ii) KPIs should be revised and updated; and iii) measures should be employed for learning rather than monitoring.

3. Methodology

This section covers the steps taken to plan and execute the empirical study. We will justify the method used to perform this research in line with its research objectives for analyzing companies' system-based view of PMS. This research study builds on the primary assumption that practitioners are unaware of the systemic value of PMS, which leads companies to a lock-in effect instead of increasing the potential for reaching OE according to their PMS objectives. Thus, the empirical study investigates the research question of how PMS is designed, used, and considered from a system-based view within companies.

As a result, the strengths and weaknesses of the selected research approach and design will be examined, focusing on qualitative research, theoretical studies, empirical multiple-case study, and the role of researchers. Following that, the data collection and sampling approach will be explained, followed by a presentation of the data analysis process for extracting useful conclusions from the empirical study. Finally, the study's quality will be discussed in terms of issues of validity and reliability.

3.1. Research Design

Research design, according to Yin (2017), is a schema that describes how data will be collected, analyzed, and evaluated, as well as its design to increase its validity. For achieving a coherent and complete study, the research purpose, issue description, and technique must all be coordinated and interconnected (Richards & Morse, 2012).

To address the open-ended and aspect-rich nature of our research question, we conducted qualitative research (Creswell, 2014). While quantitative research design is more appropriate for well-informed findings of cause-and-effect relationships among specific and pre-defined variables (Creswell & Creswell, 2018), qualitative research requires a highly investigative approach to explore a complex phenomenon by comparing, contrasting, and categorizing empirical findings (Miles & Huberman, 1994). This is aligned with our research aim to study the systemic value of PMS from a system-based view according to identified research gaps (see Chapter 1.1.). Therefore, qualitative research suits the study's purpose as this study intends to consider multiple interpretations of reality depending on context and practitioners' perspectives (Yin, 2017) for answering the explorative research question.

Therefore, the qualitative research design based on an interpretive research approach gives us the flexibility needed to pursue the research question relating to managers' comprehension. As Bryman and Bell (2011, p.410) point out, "[i]n qualitative research, the perspective of those being studied—what they see as important and significant— provides the point of orientation". This study intends to explore managers' unawareness of the PMS systemic value. According to Zainal (2007), such a research focus that intends to describe or define a particular phenomenon should use a narrative form. Due to the heterogeneous qualities of PMS design, usage, and consideration across the case studies, it was pertinent to implement methods that grant procedures in favor of interpretation and pattern-matching (Miles & Huberman, 1994). Additionally, the broad range of empirical findings of the qualitative study enabled us to discuss findings derived from theory (Yin, 2011).

3.1.1. Theoretical Study

The theoretical study was based on the idea that a research problem should be put into a theoretical context to contribute to the respective research field by building on the identified gaps (Creswell & Creswell, 2018). Due to the variety of PMS expressions, different meanings and associations in research and practice, the research objective was phrased exploratorily to avoid devaluating unexpected learnings. Therefore, we conducted a semi-systemic, comprehensive and critical analysis of current knowledge on the topic of PMS from various disciplines (Snyder, 2019; Wong, Greenhalgh, Westhorp, Buckingham & Pawson, 2013).

The narrative literature review was mostly built on articles searched on databases like LUBsearch, EBSCOhost and Google Scholar to take journal publishers into account, such as 'Accounting, Organizations and Society', 'Strategic Management Journal' or 'International Journal of Productivity and Performance Management'. In addition, conference papers provided us an insight into relevant debates within research communities about particular topics, such as the PMS as a system or package debate, that contributed to this research study. Following the traditional literature review, we also considered studies that appeared contradictory and considered what might be the reason for inconsistencies.

3.1.2. Empirical Multiple-Case Study

We realized a multiple-case study consisting of the modus operandi of different companies' PMS. Using a multiple-case research approach offers the possibility to reinforce the conclusions by replicating the patterns and enhancing the findings' robustness (Yin, 1994).

The two techniques to establish replication logic are literal replication (where the instances are made to corroborate each other) and theoretical replication (where the cases are designed to cover diverse theoretical situations). Therefore, the replication logic provided additional confirmation for the empirical findings. Conducting a cross-sectional analysis and contrasting to identify codes and patterns enhanced generalizability (Larsson, 1993). Each instance helped to either validate or refute the conclusions reached in the previous cases, thus, exhibiting transferability of results. Additionally, the multiple-case study provides a method to present a high data variation which goes along with the explorative research aim for analyzing companies' PMS design, usage, and considerations.

However, conducting a multiple-case study bears the risk of losing in-depth research (Pauwels & Matthyssens, 2004). Thus, idiographic richness is indeed a strength of case studies, and so is their ability to capture more complex contexts and interrelationships than quantitative research is able to (Larsson, 1993). Yin (2017) suggests that case studies are the preferred strategy when how and why questions are being posed, when the investigator has little control over events and when the focus is on a contemporary phenomenon within some real-life context. These four circumstances, according to Yin (2017), correspond to the research project. In summary, this multiple case study design was an appropriate adaptation to gain comprehensive findings through replication and convergence (Campbell, 1975).

3.1.3. Transparency Regarding the Primary Data

To provide the reader with transparency, the study's researcher's background will be briefly mentioned. All researchers from the primary data used in this thesis study are master's students of the International Strategic Management or Accountability and Finance program at Lund University. Also, the bibliography used for research and construction of the empirical material refers to a selection of seminal papers regarding performance measurement, MC, PM, and SPM. The aforementioned selection was made by faculty professors at Lund University. Furthermore, some students have been graded by creating the case study, whereas others just needed to pass the exam. We cannot rule out with certainty that this has an impact on researchers' engagement and thus on the quality of the case studies.

Therefore, researchers play a key role in qualitative research by collecting, analyzing, and interpreting descriptive data (Creswell & Creswell, 2018) and affect the research design (Clough & Nutbrown, 2012). The direction of the case studies has been influenced by the researchers' preferences, values, and personal histories because the researchers had direct

contact with the interviewees during the data collection and also participated in the data analysis of the acquired data and the writing process of the case study reports (see Figure 2).

Researchers' backgrounds might represent biases even if they attempted to ensure objectivity throughout the interviews, analysis, and interpretation of the collected data. Despite the central role of the researchers in conducting and evaluating research data (Flick, 2018), the strength of qualitative interviews prevails, especially in exploring different perspectives, opinions, and experiences of participants (Creswell & Creswell, 2018; Merriam, 2002). To ensure the quality of qualitative research, this circumstance required a reflection on that to mitigate the associated issues as much as possible (Creswell & Creswell, 2018; Yin, 2017).

3.2. Data Collection Method

Our empirical material consists of a total of 21 independently performed company cases, collected by several independent study groups of four to five master's students at Lund University in the context of the Strategic Performance Measurement and Management course in the Fall of 2021. Nonetheless, we are the authors of a part of the data collected for this thesis research, thereby allowing us to comprehend the process correctly. The objective of the task set by the professors was to describe and evaluate the PMS of a company of choice in order to apply the knowledge learned in the course and present the collected data in the form of a written business case report.

Data Collection Process

As primary data, all case reports are built on qualitative interviews with position-relevant senior managers conducted by several research groups individually (see Figure 2). For the creation of each case report, the method of a semi-structured interview has been chosen due to the flexibility which goes along with the variety of PMS within companies (Bryman & Bell, 2011). Also, this interview type suits the assignment of describing and assessing companies' PMS. As Sampson (1972) explains, it allows unexpected facts to be explored. Therefore, conducting a case study, semi-structured interviews serve to explore how various people perceive a particular phenomenon, i.e., in this context, the functioning of PMS.

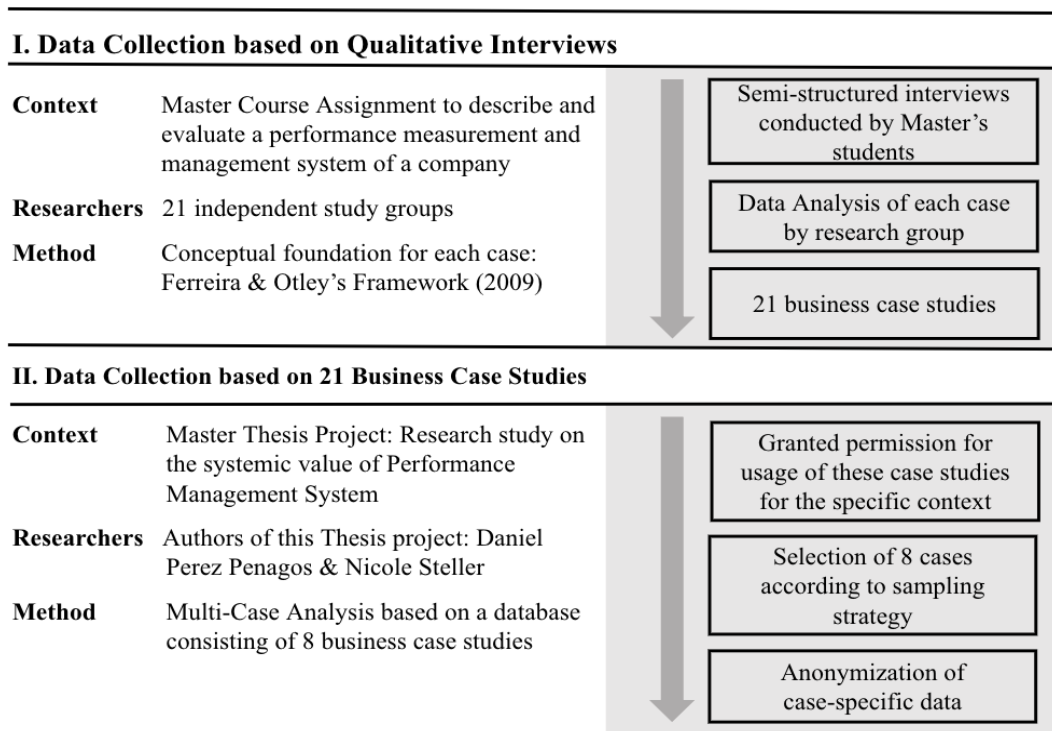


Figure 2: Overview of Data Collection Approach

Moreover, each interview and, therefore, the case report structure is based on a theoretical framework, namely Ferreira and Otley's (2009) PMS framework, focusing on particular PMS categories, specifically, Q5-Q8, Q10, and Q12 (see Table 3). In alignment with Tellis (1997), using a theoretical framework for building an interview structure is well suited to conducting a descriptive multiple-case study. Thereby, this framework is the conceptual ground for our empirical study and affects the way in which data is ultimately viewed (Sandelowski, 2010) whilst allowing both generalizability and redundancy.

To complement the primary data, all study groups were allowed to employ secondary data from public and private sources, such as official organizational papers and press releases, as well as relevant newspaper articles. Since the assignment of conducting the single case report has been used in previous courses, the interview guide based on the framework had been tested before and could ensure clarity and coherence of questions for interview participants. However, each student group had the choice to slightly adapt the interview guide to improve the fit between the case objective and the case company. Permission for using the empirical data in this thesis research context was granted in written format by both case authors and lecture professors. Regarding information sensitivity and data privacy present in these cases, company and interviewee information will be kept anonymously. Therefore, the 21 case studies were randomly named in alphabetical order (A-U) (see Appendix D).

		Theoretical Framework	Empirical Material
No.	Category	Framework Questions (Suggested by Ferreira and Otley)	Interview Questions (Used in Case A)
Q5	Key Performance Measures	<i>i</i> What are the organization's key performance measures deriving from its objectives, key success factors, and strategies and plans?	<i>i</i> What are the metrics that the company is focused on, plus how and why has this selection of KPIs changed over time?
		<i>ii</i> How are these specified and communicated and what role do they play in performance evaluation and are there significant omissions?	<i>ii</i> Are you focused on financial or non-financial measures. How strong is the relationship between these KPIs and corporate objectives? <i>iii</i> How strong is the relationship between these KPIs and business unit and corporate objectives?
Q6	Target Setting	<i>i</i> What level of performance does the organization need to achieve for each of its key performance measures (identified in Q5), how does it go about setting appropriate performance targets for them, and how challenging are those performance targets?	<i>i</i> What is the process you've put in place to setting targets to the core KPIs and how challenging are those performance targets?
Q7	Performance Evaluation	<i>i</i> What processes, if any, does the organization follow for evaluating individual, group, and organizational performance?	<i>i</i> What processes does the company follow for evaluating individual, group and organizational performance (e.g., performance reviews, leadership team reviews, etc)?
		<i>ii</i> Are performance evaluations primarily objective, subjective or mixed and how important are formal and informal information and controls in these processes?	<i>ii</i> What role does KPIs play in performance evaluation?
Q8	Reward Systems	<i>i</i> What rewards will managers and other employees gain by achieving performance targets or other assessed aspects of performance (or, conversely, what penalties will they suffer by failing to achieve them)?	<i>i</i> What is the process for setting rewards and incentives, and what is your perspective regarding financial and non-financial rewards?
Q10	Use of Control	<i>i</i> What type of use is made of information and of the various control mechanisms in place and can these uses be characterized in terms of various typologies in the literature?	<i>i</i> How is control enforced and is it meant to be coercive (i.e. restrictive and for your team to comply) or enabling (i.e. control is empowering and team engagement is important)?
		<i>ii</i> How do controls and their uses differ at different hierarchical levels?	<i>ii</i> How do you balance coercive and enabling types of control over your team/organization and how much autonomy does the team have across different levels of the hierarchy?
Q12	Strength and Coherence	<i>i</i> How strong and coherent are the links between the components of PMSs and the ways in which they are used?	<i>i</i> How coherent and strong are the links between your performance systems, team capabilities and the unit's objectives?
			<i>ii</i> Do you feel that coordination is sufficient or how could it be improved and how flexible is the company's strategy under a dynamic environment?

Table 3: *Questions Comparison of Ferreira and Otley (2009) and Case A Interview*

Sampling Strategy

As a means to secure quality, reliability, and homogeneity, we conducted a non-probabilistic purposive sampling strategy to select information-rich cases for in-depth study. Moreover, Miles and Huberman (1994) claim that a sample size between eight and 15 cases ensures replicability of results, while higher numbers may signify misleading variances. Consequently, from 21 case studies, we chose eight business case studies for conducting the empirical study. For visibility purposes, the process for the sampling will be briefly outlined.

Coinciding with Yin's (2017) theory-based principles of reliability, internal and external validity, and construct validity, we assessed each of the 21 cases using this set of criteria (see Appendix D). Complementary, we also provided subjective qualifications for case quality, specificity, knowledge-gain, and sufficiency (i.e., extent to which the case is relevant to answering our research question). These factors are derived from theoretical problematization. According to Larsson (1993), case selection criteria should, in fact, emerge from the theoretical research field of a study in order to be relevant for the construction of the related framework and serve the research purpose. Thus, from this first phase of our sampling

exercise (i.e., assessing theoretical criteria and case quality), a total of 15 cases were preselected (see Appendix D).

To commit to homogeneity, our final case selection was careful to only include large or medium-sized companies from the technology sector that had global or regional operations. Framing the company industry to technology companies was determined due to the rising importance of data literacy and information systems in PMS design and usage (Demartini & Taticchi, 2021). As a result, the empirical subjects of this study are more prone to portray insights and best practices that will continue to be relevant in the future. We decided to focus on large and medium companies with an international presence to better represent the needs of transnational companies that have the capacity to shape industry standards. Moreover, it is of importance to remind the reader that all interviewees hold a senior or executive position. Thus, an analogous business perspective is present in our final eight empirical cases (see Table 4). This decision is aligned with Schleicher et al. (2018) argument that managers are central actors in PM and thus can provide competent and comprehensive data on PMS.

Case Name	Industry	Size	Headquarters	Presence	Interviewee Position
A	Technology	Large	United States	Global	Global Sales & Operations Director
B	Foods and Technology	Large	Germany	Global	Business Development Senior Manager
C	Medical Technology	Large	-	Global	Senior Manager
D	Technology and Medical	Large	Germany	Global	Compensation & Benefits Manager
E	Engine Technology	Large	United States	Global	Senior Vice President of Sales & Marketing
F	Technology and Dental	Large	Denmark	Global	Director of Marketing
G	Advertising Technology	Large	Cyprus	Global	Head of Optimization
H	Technology	Medium	Sweden	Regional	Head of People

Table 4: *Overview of Selected Empirical Cases*

3.3. Data Analysis

To comply with the empirical data's variety of interpretations and perspectives equally to pursue the claim of linking empiricism with theory, we pursued an abductive approach to thinking; we followed an abductive reasoning approach. We reviewed "prior theoretical knowledge in providing a background to the search for the most plausible explanation for empirical observations" (Lukka & Modell, 2010, p.467). Based on the literature review, we developed a theoretical frame for analyzing the empirical data to enable the explorative

investigation of a phenomenon by detailed analysis of particular case studies (Thomas, 2010). The analysis was characterized by starting from empirical specific observations to draw general conclusions through generalization and transferability of results (Rashid, Rashid, Warraich, Sabir & Waseem, 2019). This mechanism proves research propositions prior to data collection and analysis in line with Yin's (2017) suggestion, creating patterns and themes. This approach has enabled us to be receptive to identifying potential new theoretical perspectives enriching our understanding of observed phenomena. However, following the abductive approach, the cross-references between empirical findings, the theoretical findings, and researchers' interpretations lead us to develop theoretical implications.

The data analysis followed Clarke and Brauns' (2013) guidelines for analyzing the empirical material. To support the qualitative data analysis approach, we utilized the software MAXQDA (Version 22.1.1.). This tool allowed us to organize the database easily, familiarize ourselves with the data and support the manual coding process.

In line with thematic data analysis, we defined a set of codes intended to analyze the data based on the theoretical framework constructed throughout the literature review. Therefore, we primarily conducted a top-down deductive approach and created a predetermined coding frame based on the research question and the theoretical framework. This method was focused on coding citation segments that are recognized to be essential for the literature. However, we also considered the disadvantages of the deductive coding approach, such as adopting a more narrowed perspective on the data (Linneberg & Korsgaard, 2019) and complemented our approach with inductive coding. The advantage is to not review the empirical material with preconceived notions of what the codes should be about. Instead, it allowed the narrative or theory to emerge from the raw data itself and to name these codes by using phrases or terms used by the interviewees themselves (Linneberg & Korsgaard, 2019), which was in line with the exploratory aim of this research study. This blended approach of deductive and inductive coding (Graebner, Martin & Roundy, 2012) allowed us to stay open to surprises in the data while at the same time staying attuned to existing theories relevant to our research study.

Although each researcher conducted the manual coding procedure separately to avoid biases, such as confirmation bias, we kept a shared list of codes with each description to ensure the set of codes captured the phenomenon's qualitative diversity (Boyatzis, 1998). Also, we summarized all coded citation segments in a shared document to unify both researchers'

perspectives. Moreover, we prioritized the coded citation segments according to the subjectively perceived relevance in regard to our research question and formulated generalized empirical findings. This process has been supported by discussions about each case study's empirical findings. It helped to build a good database for findings, generating themes, and identifying cross-case patterns in qualitative data in order to understand specific phenomena in specific contexts (Clarke & Braun, 2013). Finally, we reviewed identified themes and translated them into categories to determine the relationship to each and to reflect data variation. Afterwards, we conducted a detailed analysis of each theme and provided a proper name for each thematic category (see Chapter 4.5.).

Additionally, for a more thorough investigation, we complemented the thematic approach with a variety of content analyses. In contrast to manifest content analysis, we thereby analyzed the cases at a latent content level with the intention of interpreting what may be hidden deep within the text. Thus, our task as researchers was to discover the implicit meaning of the participants' experiences by actively using various mental schemas, theories, and lenses to interpret data. While manifest analysis usually assumes that the researcher maintains distance from the study objects, latent analysis emphasizes the importance of the researcher making sense of the text (Kondracki, Wellman & Amundson, 2002).

In sum, content latent pattern analysis and thematic analysis approaches have been chosen to extract meaning from our empirical material better and generate more profound findings and insights through establishing implicit and explicit patterns within the data.

3.4. Research Quality

To secure high-quality and transparent research, this section summarizes and supplements the preceding information on notable limitations arising from the research design, validity, and reliability claims.

Validity & Reliability

Ensuring validity in qualitative studies is often referred to as trustworthiness or credibility, as well as the accuracy with which the findings accurately reflect the data (Suter, 2012). According to Yin (2011, p.78), "a valid study is one that has properly collected and interpreted its data, so that the conclusions accurately reflect and represent the real world that was studied". Moreover, acknowledging risks of validity insufficiency is primordial to the exercise of research inquiry. Although validity in qualitative studies is generally high due to

primarily descriptive data sources, empirical research is often confronted with threats such as the presence of bias in subject’s responses (Galdas, 2017), how truthful they were, and if congruence is ensured among question formulation, literature recruitment, data collection strategies and analysis (Morse, Barrett, Mayan, Olson & Spiers, 2002).

In line with Yin (2017), four criteria are relevant for case studies, which have been checked by several techniques (see Table 5). We will address each research quality criteria.

Criteria	Implemented Approach
Construct Validity	Establishing a clear chain from the initial research question to the final conclusions
	Case studies based on research framework by Ferreira and Otley (2009)
	Pattern matching: Creating codes, themes for structured data analysis
	Clear description and journaling of data analysis
Internal Validity	Using logic models
	Addressing rival explanations
	Verifying findings by adopting multiple perspectives based on different theoretical lenses
External Validity	Providing a clear rationale for the case study selection
	Presenting details on the case study context
	Using theoretical frameworks
	Using replication logic
Reliability	Using case study protocol and continuously reflecting on the process
	Organizing case study documents in a way to facilitate retrieval for later investigators

Table 5: *Implemented Techniques for Theoretical-based Criteria*

Yin (2017) argues that researchers analyzing case studies often do not develop well-considered sets of measures and are negatively impacted by subjective judgments. In order to enhance construct validity and ensure the quality of conceptualization (Yin, 2017) in the case studies, we established a clear chain of arguments between our initial research question and final conclusions. The criterion of external validity is grounded in the intuitive belief that theories must be shown to account for phenomena not only in the setting in which they are studied but also in other settings (e.g., Calder, Phillips & Tybout, 1982). Multiple-case studies aim to reach an analytical generalization which is a process that refers to the generalization from empirical observations to theory rather than a population (e.g., Yin, 2017). Finally, researchers should provide a clear rationale for the case study selection, and ample details on the case study context, in order to allow the reader to appreciate the researchers’ sampling choices. Accordingly, we have put in place a set of strategies to offset data variance and maintain the replicability of our results. For instance, our purposive

sampling strategy aims directly to diminish variance while ensuring the quality of the cases (see Appendix D). In parallel to this, interviewees hold homogeneous positions in their companies to portray competency and validity of results (see Table 4). Additionally, all case companies are operating within the same industry. This supported delimiting the variance in companies' circumstances.

Moreover, basing all interview questions on a key portion of a highly-suitable framework (i.e., Ferreira and Otleys' (2009) PMS) should guarantee internal validity and relevance of results to solve our research question. An internal validity test was based on various techniques (see Table 5) focused on the examination of case study findings, aiming to reflect the findings as well as asking the questions, such as how well do the findings reflect the outcome of a case or how certain is it that no other factors may have influenced the findings (Yin, 2017).

Regarding reliability, an intensive collaboration between the two researchers during data collection, analysis, and interpretation contributed to qualitative reliability (Yin, 2011). Feedback loops improved communication within the research team, which in turn facilitated cross-checking of individually developed codes for more reliable results (Creswell & Creswell, 2018). In addition, to avoid confusion about the meaning of the different codes during the project, brief definitions were added each time a new code was introduced.

4. Empirical Findings & Analysis

This chapter will establish the main insights evidenced in the empirical material through empirical findings and supportive case citations. Appropriately, all presented findings are directly derived from our primary data, that is, the company case reports. Thereby, all the italicized citations depicted in this chapter correspond to written interpretations of the researchers responsible for constructing our primary data. That is to clarify that they are not direct quotations from the manager's transcribed interviews. As a reminder, our study's research question is how PMS is designed, used, and considered from a system-based view to analyze the systemic value of PMS. To facilitate comprehension of our empirical results, Table 6 functions as a holistic overview of PMS tools, categories and their characterizations per case company. This table aims to gather findings and results supporting the reader in visualizing both cross-sectional and PMS case-specific insights holistically.

Empirical Results on PMS	Present in the Following Cases								Total
	A	B	C	D	E	F	G	H	
PMS Tools									
Comprehensive Tools									
BSC	■					■			2
CBSC	■					■			2
Strategy Maps							■		1
OKR		■						■	2
Agile and SCRUM							■		1
Company-customized Tools	■			■					2
Non-comprehensive Tools									
BI Dashboards	■	■	■		■	■		■	6
Only Has Non-comprehensive Tools			■		■				2
Key Performance Measures									
Predominantly Financial-focused KPIs	■	■	■	■	■	■	■	■	8
Inclusion of Non-financial KPIs is Poor		■	■	■	■		■		5
Neglect of Non-financial KPI is Explicit			■	■			■		3
Oversaturation of KPIs is Explicit	■	■							2
Target Setting									
Predominantly Financial-based Targets	■	■	■	■	■	■	■	■	8
Includes Non-financial Targets	■					■			2
Reward System									
Includes Financial Rewards	■		■	■	■		■	■	6
Includes Non-financial Rewards				■		■	■		3
Rewards are Exclusive for Senior Managers			■			■			2
Performance Evaluation and Review									
Company-customized Tool	■		■	■		■			4
Directly Linked with PMS Tool	■	■	■	■		■	■	■	7

Empirical Results on PMS [Continued]

Present in the Following Cases

	A	B	C	D	E	F	G	H	Total
Uses of Controls									
Levers of Control									
Belief System				■					1
Boundary System	■	■			■	■			4
Diagnostic Control	■	■	■	■	■	■	■	■	8
Interactive Control				■			■	■	3
Assumed Control versus Actual Control									
Intention is Enabling and Interactive	■	■		■		■	■	■	6
Intention is Coercive and Diagnostic		■	■	■	■		■		5
In Reality is Enabling and Interactive				■			■	■	3
In Reality is Coercive and Diagnostic	■	■	■	■	■	■	■		7
Fails to Match Intention with Reality	■	■				■			3
Successfully Matches Intention with Reality			■	■	■		■	■	5
Strength and Coherency									
Alignment and Performance of the PMS									
Has an Underperforming PMS		■	■		■				3
Has a Poor Alignment with Strategy		■	■		■				3
Has a Regular Alignment with Strategy	■					■		■	3
Has a Strong Alignment with Strategy				■			■		2
Level of Awareness									
Awareness Level is Low		■	■		■				3
Awareness Level is Medium	■					■			2
Awareness Level is High				■			■	■	3
Transparency and Culture									
Lack of Transparency is Evident			■		■	■			3
A Strong Organizational Culture is Evident				■			■		2
Flow of Information and Hierarchy									
Direction is Only Top-down	■	■	■		■	■			5
Direction is Top-down and Bottom-up				■			■	■	3
PMS is Designed Exclusively for Top Levels			■		■	■			3
Stated Purpose of the PMS									
PMS Purpose is to Empower People	■			■			■	■	4
PMS Purpose is Explicitly Informative	■	■	■		■	■			5
PMS Purpose is to Monitor	■	■	■	■	■	■	■	■	8
PMS Purpose is to Enhance Feedback	■			■		■	■	■	5
PMS Purpose is Explicit on Learning	■	■		■		■	■	■	6
PMS Purpose is to be Iterative		■		■			■	■	4
Purpose Attainment									
Fails to Commit to its Purpose	■	■				■			3
Company Attains its PMS Purpose			■	■	■		■	■	5
Balance Attainment									
PMS is Mostly Unbalanced	■	■	■		■	■			5
Successfully Achieves to Balance its PMS				■			■	■	3

Table 6: Summary of Empirical Results and Analysis

Color Key: Green (Successful, Achieves or High), Orange (Regular or Medium), Red (Poor, Fails or Low)

The structure of this chapter is as follows. We will provide some guidance to better grasp our eight business cases (A-H) by introducing each case company. Then, empirical findings are set thematically by the three phases of the PMS life cycle (e.g., design, usage, and consideration) that this thesis elaborates on. Consequently, we will first explore findings on PMS design in terms of the characterizations that compose PMS and the interactions that emerge from within. Secondly, we will address empirical findings on the PMS usage, most notably on the types of control and processes companies are exercising, as well as how the PMS usage serves to cope with contingency and complexity. Lastly, empirical findings on PMS consideration portray crucial takeaways associated with PMS effectiveness and managers' awareness.

4.1. Introduction to the Empirical Cases

As aforementioned, to support comprehension of the empirical material, brief company background and stance towards their PMS will be provided.

Case A: This technology company is a worldwide leading S&P 500 company with headquarters in the United States and sells cloud-based solutions. It performs using a robust portfolio of BI dashboard reporting, BSC and CBSC. Their PMS is financial-focused, and despite an enabling intent, it is ultimately used diagnostically.

Case B: This regional business unit is part of a young yet rapidly expanding German food and delivery technology company operating globally. It follows a growth strategy and is tightly aligned with an OKR framework oversaturated with metrics and has no reward systems.

Case C: The report gives insight into a large medical technology company that deliberately neglects non-financial KPIs, targets, and rewards. Its PMS functions in both enabling and coercive instances and is dependent on BI dashboard reporting. It does not include more comprehensive or in-house developed PMS tools other than dashboards.

Case D: As a global and industry-leading medical and technology conglomerate, this S&P 500 German company heavily measures success through lagging financial KPIs. However, it demonstrates a case for adequately balancing enabling and coercive controls intended due to a robust belief system and complementary company-specific PMS tools.

Case E: This case is based on a large engine technology manufacturer from the United States. It exhibits an underperforming PMS that mostly functions diagnostically and crowds out its enabling and learning initiatives due to systemic unawareness and a coercive context. Also, it does not use comprehensive PMS tools.

Case F: This company, operating in Europe, creates high-value software for the dental industry and uses dashboards, BSC, and CBSC to drive its PMS. Though, it follows a predominant rigid top-down approach regarding monitoring, communication, and control.

Case G: This report is based on a medium-sized but globally operating online advertising and technology firm. Its PMS is reliant on agile and SCRUM-based initiatives that shape the rhythm of the business. Hence, its PMS is adequately designed to cope with complexity through iteration.

Case H: This case portrays a young medium-sized Swedish technology company. Its PMS notably uses a dynamic approach to its OKR framework, whose usage is rich in feedback loops to promote interactive control. Despite using dashboards as diagnostic devices for monitoring, it purposely balances its PMS with enabling characterizations to put forward a thriving iterative-driven culture.

4.2. PMS Design

The empirical findings addressing PMS design are collapsed under four themes that are driving our analysis, namely, the emergence of influence (i.e., PMS tools and characterizations can influence PMS design), mimicking of properties (i.e., how PMS mimics the properties it is exposed to), equifinality and unifinality (i.e., PMS characterizations and intentions are heterogeneous), and fluid networks (i.e., the notion that system perspectives and networks do follow a spectrum approach).

Emergence of Influence

The data analysis reveals that PMS tools shape and influence PMS design, as well as its usage and effectiveness. Therefore, the companies in our empirical data strive to include adequate PMS tools aligned to how they envision PMS goals and usage.

Our results show that six company cases include comprehensive PMS tools (e.g., BSC, OKR, or company-specific tools like the GROWTH Talks), of which five company cases, namely

A, B, D, G, and H, explicitly reflect on the associated benefits of including them in their PMS design. For example, to determine its rhythm of business and increase the overall connectivity of the PMS, the company from case G “*employs an Agile approach in its work processes*” while case A “*is a convinced BSC adopter*”. Furthermore, the inclusion of PMS tools allows targets and KPIs to vary in the category according to the aim (dialogue or performance), control (coercive or enabling), target exigency (ambitious or realistic), hierarchy (organizational or individual), and type (strategic or operational). As the report on case B points out, “*the interviewee distinguishes between objectives in the OKR system, which tend to be very ambitious to push performance, and operational KPIs [that] tend to be more realistic*”. Likewise, PMS characterizations enable companies to reach desired states, thereby signaling the importance of setting up the correct PMS tool to support companies in making that transition. As case D demonstrates, “*with [the GROWTH Talks] initiative, the organization wants to promote a culture of learning ... and has made a transition from a diagnostic looking-back perspective to an interactive learning perspective*”.

Conversely, the absence of comprehensive PMS tools or categories generates linkages that are not sufficiently explicit; that is, cause-effect sequences are not clear. Thus, PMS tools and categories contribute to holism and alignment when included in the PMS design. In this sense, absenteeism of key PMS characterizations or categories leads to mostly isolated characterizations in their PMS design. As case C states, “*it might be useful to implement a BSC to get [a] broader and holistic perspective*”. Further, case E criticizes the underperformance of its PMS that arises from missing characterizations and “*illustrates the importance [of PMS tools] to effectively control the company’s resources and achieve corporate goals*”. Along these lines, case D reports not having a reward system and thereby notes that “*the lack of explicit linkages, especially between the performance evaluation and the reward system, challenges the existence of a conceptual PMS within the company*”.

Mimicking of Properties

The data indicate that PMS tools absorb the type of control they are exposed to, as well PMS design reflects the shortcomings and advantages of the PMS characterizations present in its design composition (see Table 6). Hence, the context (i.e., what surrounds a PMS tool, characterization, or the design overall) influences the intended outcomes of PMS design. If companies fail to recognize that PMS design absorbs the properties of subsequent characterizations, then they are at risk of crowding out PMS purpose or desired effects.

As the implications of mimicking properties are two-folded, we will first state its negative effects and then the advantages of such behavior. PMS design is reflected in its tool's intention (e.g., dashboards and BSC), in particular, if coercive control, boundary systems, and monitoring are prevailing. Looking at case F, they state that excessive use of *“elements of their boundary system ... leaves little room for flexibility [thereby creating] functional scorecards and dashboards ... used by top management mostly as diagnostic tools”*. Implying that stricter control in tight networks allows path-dependency of bureaucracy. In alignment with this issue, if the purpose of the PMS is to be informative and diagnostic, its tools and characterizations will reflect and mimic those attributes (e.g., cases A, B, and F). Our data shows that despite a company incorporating learning-based and leading-focused PMS characterizations, it will be flawed if the rest of the PMS contradicts these intentions and is predominantly lagging and coercive (see Table 6).

On the other hand, three companies (i.e., D, F, H) benefit from its PMS tools, reflecting the type of control and complementary PMS characterizations that they are exposed to. The data suggests that when enabling control is promoted, and there is a tolerance for complexity and iteration, the PMS tool absorbs those characteristics and further enables interactive controls and feedback. An example is case H's OKR framework, which is primarily used for strategy execution and not necessarily an enabling tool but when *“used to provide strategic, continuous feedback [management created] meaningful conversations and interaction”*. Also, when a mix of characterizations is introduced in complementarity, it creates synergies. For example, the KPIs are used in its BSC and dashboards to track performance dynamically, increase accountability and enhance decision-making. As case F exemplifies, *“KPIs are very dynamic and displayed in Power BI dashboards ... which speaks for very transparent communication [and] are ultimately a tool to support data-driven decisions”*. As it can be observed, both positive and negative effects of mimicking properties can be present in one company (i.e., case F) at different instances of the PMS design. Moreover, PMS actively translates core values (e.g., empowerment and autonomy) and culture (e.g., feedback or iterative-driven) into visible yet implicit characterizations for a coherent PMS (e.g., case D).

Equifinality and Unifinality

Empirical results portray the diversity of focus and presence of PMS categories, characterizations, tools, purpose, and hierarchy (see Table 6). A consequence of PMS reflecting unifinality is that there is no correct mechanism for fully standardizing PMS.

From the empirical data, it can be identified that financial-focused PMS is notably predominant in the empirical material and has the tendency to reflect in various PMS categories (i.e., KPIs, targets, and rewards). The inclusion of non-financial characterizations in the context of KPIs is especially troubling, as a majority of cases (e.g., cases B, C, D, E, and G) have poorly incorporated leading indicators in their PMS. This goes to the extent of explicitly neglecting non-financial KPIs in three of the company reports, namely cases C, D and G. Likewise, the inclusion of non-financial targets or rewards is also part of the minority of companies from our sample (see Table 6).

Companies have varying preferences in the type of PMS tool they implement in their designs. The most popular PMS tool in our results is that of using BI dashboards (e.g., cases A, B, C, E, F, and H). Intentions and needs for implementing dashboards across their business reporting are different according to the company examined. As the case A report clarifies, the company *“uses a robust portfolio of reporting dashboards to track KPIs, targets and business growth drivers”*. What is more, case F states that *“where the scorecards, dashboards and business plans are utilized in a transparent manner to promote information exchange”*. Moreover, only two company reports illustrate the use of such PMS tools with accompanying CBSCs. In contrast, our results surprisingly portray a rich and heterogeneous selection of comprehensive PMS tools in the likes of strategy maps, agile initiatives, OKR, and company-customized PMS tools. In addition, seven of our case reports showcase direct linkages of leveraging their PMS tools in their usage for performance evaluation and performance review. Nevertheless, the precise way that the PMS tool is designed varies, further exemplifying equifinality.

The contingent-dependent nature of PMS signals the practically endless options that companies have at their disposal when deciding what to prioritize in their PMS focus (e.g., intention or purpose). For instance, companies with the intention of empowering their people and developing learning and feedback firms design their PMS accordingly. Along with this reasoning, case D stands out as the only company with a strong belief system that plays an important role in empowering employees (see Table 6). Our data suggests that companies where the direction of information flows from both a top-down and a bottom-up approach allow feedback loops to function, enable iterative cultures and illustrate the emergence of learning (e.g., cases D, G, and H). Other company reports, such as cases C and E, prefer to prioritize monitoring, being informative and strict dominance.

Moreover, the concept of equifinality can also be used to understand our data in terms that even though it is nearly impossible to fully replicate the PMS design, organizations can arrive at the same problems (e.g., misalignment, underperformance, purpose unfulfillment, a mismatch between intention and reality). In particular, companies from the case reports have a PMS intention of being diagnostic (e.g., cases C and E), interactive (e.g., cases A, F, and H), or both diagnostic and interactive (e.g., cases D and G). Even with these PMS intentions set, cases A, B and F do not apprehend such effects. The data present that most of these complications are rooted in not committing to those PMS objectives and thereby designing their PMS apart from their intention or purpose. To exemplify, cases A and F have a PMS tool that is mostly diagnostic (e.g., BSC), are lagging in its set of KPIs, don't have strong belief systems, direction follows a top-down cascading approach, feedback loops are limited to non-existent, and have in its PMS purpose that of being informative and monitoring. On the other hand, case C has the objective of enforcing a coercive approach and is coherent in terms that its PMS purpose is that of being informative and monitoring. Also, it deliberately neglects non-financial KPIs, has a top-down approach and lacks transparency (see Table 6). Hence, case C commits and acts consequently to its intention. Thereby it does not suffer from a mismatch or dissonance between its PMS purpose, intention, and reality. This is not to say that a proper PMS is solely coercive, exclusively enabling, or both coercive and enabling, but rather coherent to what the company strives to accomplish with it.

Fluid Networks

According to our data analysis, it can be identified that there are certain PMS categories (e.g., target setting, evaluation and review), PMS tools (e.g., OKR, SCRUM, and BSC), and PMS characterizations (e.g., monitoring and beliefs) that tend to be connectivity-rich, thereby elevating alignment and interrelatedness between categories and other PMS characterizations. As case B displays, their *"PMS appeared to be reasonably well aligned with the strategy, especially through [its] OKR"*. In complement, case H argues that *"given the outlined intensive use of the OKR framework, the firm's strategy and objectives and KPIs are strongly connected, while permanent reviews ensure thorough alignment between them"*. Other firms use the BSC to align various PMS categories; as case F illustrates, their BSC works *"as a central performance [mechanism] that is shared with individual departments and teams"*.

Moreover, some companies make a case in support of our claim that PMS categories drive connectivity. The report on the company for case A further asserts:

“An essential process of [performance review] at the organizational level is the participation of MBU meetings, where the [business group leaders] and segment leaders discuss target coverage, month-closed performance, revenue forecasting, and pipeline coverage. [Also, the MBU] works as the core control mechanism ... and include[s] key stakeholders from the marketing, sellers and partner teams”.

Then, the data exemplifies that certain characterizations within the PMS are responsible for impacting a larger number of actors, PMS characterizations, or technology. According to the case report, the manager of company B argues that *“the company is strongly data driven and ... agile and can act quickly upon change if undesired deviations occur”*. Case G also reflects on the use of technology as *“information flow, systems and networks are imperative, providing links and transmitting information to enable the organization to operate smoothly”*. Therefore, the analysis indicates that companies need to be aware of which PMS categories and characterizations are making their PMS network tighter because they become opportunities to have greater repercussions on different types of stakeholders and subsequent PMS characterizations. Under these circumstances, we perceive that PMS categories and characterizations can act as core networks; that is, they pull the network closer together. In addition, tighter networks are easier to adapt, as closeness between characterizations infers that impact is easier to attain, especially if course-correcting motions are required. As case D illustrates the advantages of implementing double-loop learning in their PMS to *“correct and address deviations from a predetermined course of action and find causal links to correct the action plan”* and therefore to make the PMS network tighter.

In contrast, there are other instances of the PMS design where they are pulled apart, which more closely resemble the typology of a peripheral network. For example, case C presents that *“the use of data in general ... gathered by the HR department, the data is barely used and thereby indicates cost inefficiencies”*. Another example of loosely coupled linkages at risk of isolation is portrayed in case E as it reports that *“individual performance metrics tied to the organizational goals are lacking and that [the managers] believe some additional focus on ... team building could be beneficial to achieving higher standards”*. Case D goes on to say that the *“managerial effort of such GROWTH Talks could hereby be acceptable since the causal input-to-output relationship between managers’ behavior and KPI fulfillment is rather unclear”*. As noted in a prior statement, case D exhibits both tightly coupled and loosely coupled networks and linkages.

A key empirical takeaway is that both types of networks can coexist within one single PMS; hence, networks function in fluidity. The implication of such a finding is that companies need to understand that PMS networks have instances where the PMS is tightly linked and where it is loosely linked. Consequently, consistency in a PMS varies. Some characterizations are more isolated, while others are more integrated and coordinated. The report for case C also adds that the company *“takes a holistic approach in terms of KPI communication, [however] the company still lacks a balanced view with regard to its use of financial and non-financial measures”*. Thus, PMS can be holistic in certain topics and, at the same time, circumscribed.

4.3. PMS Usage

The empirical findings addressing PMS usage are structured by referring first to the type of control companies are exercising (diagnostic, interactive, balanced usage of control) in relation to organizational hierarchy, then how PMS usage is established, and how the PMS usage serves to cope with contingency and complexity.

Generally, the case analyses show that in all case companies, the PMS usage varies within the company itself and depends on multiple factors, such as the design of the PMS for each organizational unit or level.

“[T]here is a relational use of the PM ... some teams decompose their performance into components and use high levels of detailed information shared between superiors and peers, but there are also cases where the PM use is not controlled” (Case G).

Control and Hierarchy

In total, the empirical data shows that most cases practice a coercive and diagnostic type of control, although cases A, F, and H do not intend to exercise this type and therefore fail to match intention with reality (see Table 6). The majority of case reports explicitly mention the aim of using the control in a more interactive way. However, just cases D, G, and H implement interactive control as complementarity to diagnostic use of control.

Most common for companies, e.g., cases B, C, E, G, and H, is the use of PMS for exercising diagnostic control. Case report H defines diagnostic control equally to the purpose of its PMS. PMS is used, and therefore the use of control is chosen to review, monitor, and evaluate performance at *“top management ... and operational levels to reward employees according to strategic goals”*. Further, case G explains that diagnostic control is used as an enabler for

strategy implementation, which illustrates that the PMS is consciously used to support strategic management. Accordingly, diagnostic use of control is related to the organizational hierarchy, particularly to a greater extent at certain management levels which indicates the correlation between bureaucracy and coerciveness. Thus, it results in diagnostic use of control: "*[The target setting process] is not an agreement process. ... Here are your targets. Take them, sign them. And now go ahead and go to work*" (Case D). This case describes that the target setting category allows only limited discussion and participation of employees; instead, they have to abide by their managers' decisions. Considering that this type of control stays in contrast to the intention for interactive use of control for further organizational hierarchies, it shows the diagnostic type is approached at the top of organizational hierarchy is unilateral and follows as a mandate. Case B supports this finding and justifies the issue with the explanation that "*these [managers] are mainly directives from headquarters that each function must carry out*".

In addition, the analysis portrays that PMS information is used to a greater extent by managers operating on a certain level for aligning employees' behavior with organizational objectives. According to case C, the "*use of information at junior levels ... is very limited*". This indicates that the PMS value serves more for managers at a higher level, such as according to case C, to align behavior, monitor and inform performance.

In contrast to these cases, companies D, G, and H exercise interactive control by investing in PMS categories and characterizations that explicitly promote control interactivity. This highlights that the use of control in a more interactive form can also be used to exude dominance and create a structure to manage performance.

For example, case company D implemented learning PMS characterizations as an enabling factor for exercising the use of control more interactively. According to the case report, the company intends to reach "*consistencies between key objectives, organization structure, and culture*". In contrast to, for example, case C, where the type of control is dependent on the organizational hierarchy, case D elaborates on the intention that managers of all hierarchical levels are encouraged to participate in an interactive program that supports discussions and bilateral communications. This means that organizational members, regardless of their position, are involved in more diverse ways by focusing on personal and informal communication. Also, case H confirms this finding and underlines that in his organization, particularly leaders are encouraged to foster communication about performance across

hierarchy and are therefore considered responsible for making control more interactive. Case H refers to the focus on *"growth metric[s] and use this to drive employee behavior/attention and coordinate operations and strategy"*. Most cases, such as for example Case H, exemplify that PMS usage is not solely characterized by assessing individuals' performance but rather by aligning the individuals' personal development and career path with the company's goals.

Furthermore, three cases illustrate the mixture of both types of control. Cases D, G, and H indicate that diagnostic control attempts to be counterbalanced by leveraging PMS characterizations in a more enabling way to foster interactivity regarding the PMS usage. Case H underlines the importance of counterbalancing the use of control aiming for higher PMS effectiveness due to its *"need for strategic and continuous feedback on the long and short term dimension"*. However, case G points out that although diagnostic control is complemented by interactive control, *"not all intended strategies come to fruition and thus are not realized"*. Therefore, the report of case G concludes that keeping the balance between diagnostic and interactive control does not seem to work sufficiently.

Furthermore, the analysis presents that the use of control seems to be continuous in a transition process. Particularly case D, in particular, illustrates the ongoing shift toward more interactive control to counterbalance diagnostic control to strive for greater PMS effectiveness. For example, the case describes the plan to allow more subjectivity within the whole PMS by partially standardizing the system. It is striking that cases A and F do have the intention of interactive use of control, but based on the case report, the companies lean towards a diagnostic approach (see Table 6). This shows that companies need to make real efforts to support interactivity, as PMS tends to be used diagnostically by default.

Formal and Informal Ambivalence

The case analyses present that PMS usage is predominantly exercised by setting up mainly formalized PMS usage, which supports the structure, coordinating, and aligning of employees' behavior to reach greater PMS effectiveness, in particular efficiency. The data shows that two PMS categories (i.e., target setting and performance evaluation) are predominantly discussed within the case reports.

PMS usage is, in all cases, customized to each company. For example, in the case of company E, the way PMS is used is mainly constructed according to the organization's objective of *"annual growth in units ... and increased revenue"*. Case E describes these goals can be

mainly influenced by the sales team. Therefore, the entire PMS focus and purpose are reflected in the way the company uses performance evaluation to recognize the deviation between performance and the expected target. *“On the organizational level, [the company] tracks quarterly sales and compares the level to ... annual revenue target which allows them to identify missed targets or potential opportunities”* (Case E).

Additionally, some companies have customized the PMS usage according to the hierarchical level: *“KPIs on team level are reported on a weekly basis ... there is a formal process of evaluating them on a monthly level and potentially adjusting actions afterward”* (Case B).

Furthermore, in most cases (e.g., cases A, D, and G), performance evaluation and target setting are institutionalized and formalized in documents, intranet, or internal wiki pages. Companies defining PMS usage more formally might be due to the diagnostic PMS nature and the company's urge to drive efficiency: *“The purpose of such reporting is to make progress more transparent and efficient”* (Case G). It showcases that the PMS purpose of reaching efficiency goes along with the monitoring function, which has been found in all case reports. For example, case B emphasizes this PMS function by mentioning that the *“collect[ed] data ... allows them to measure and control all functions”*. Moreover, case G explicitly mentions the fact that *“company objectives and targets are ... set ... centrally by the main shareholder”* and explains that *“the set targets are ambitious and difficult-to-reach ... Despite the demanding nature ... main shareholder insists on reaching them”*. This indicates that the formalization of PMS usage is employed to achieve efficiency gains in order to serve shareholders' expectations of management control.

Due to this PMS purpose, the analyses present that PMS usage is rarely exercised by informal characterizations. However, cases C, D, E, and G illustrate that PMS can also be used in a more informal way. For example, case D reports how the company makes the performance evaluation category more informal with the intention of motivating employees to reach more ambitious and predetermined performance goals instead of highlighting the failures: *[the] evaluation process ... serves solely the assessment of receiving promotions, training, or more prestige-worthy projects* (Case D). This shows that the increase in performance and, therefore, PMS effectiveness is considered by explicitly highlighting informal usage. Furthermore, case D stands out by using a dynamic way of performance evaluation, which is relatively adaptable to external effects. For example, case D postulates that the incentivization effect may be reduced if a target's range ends too low or starts too high. It

exemplifies how the informal PMS usage leverages the PMS dynamism as the usage is then adjustable to contingent factors. As case D illustrates, *"this fluent system helps targets not be definite and does not punish if unreasonable targets are not met"*. Also, case A iteratively monitors, reviews, and adapts the way of target setting and performance evaluation and goes along with case D by pointing out managers' awareness of dynamic PMS usage.

Moreover, the analyses of cases A, C, and G demonstrate that making PMS categories more informal is predominantly approached by holding meetings where issues about performance can be communicated, discussed, and clarified. For example, case A refers to having regular meetings scheduled where employees' individual KPIs are set and mapped to the company's BSC, and thus, the bilateral information flow about performance is fostered.

Coping with Contingency and Complexity

In the following, we will elaborate on the way companies use PMS to face environmental uncertainties, internal contingencies, and thus how companies cope with complexity.

In all cases, conditional factors are integrated into the PMS design to monitor environmental changes, such as local market share and competitors' performance (e.g., case C), customer expectation (e.g., case H), and satisfaction (e.g., cases A and E), and industry (e.g., cases A and F). However, in most cases, contingent influences seem not to be considered part of the PMS usage. Only a few case studies explicitly mention incorporating contingent factors as mediating variables in, for example, their performance evaluation category: An *"increase in performance can also be influenced by external forces"* (Case B). In this sense, case G can be pointed out as it showcases the manager's awareness of the organizational need to customize and continuously adapt PMS usage according to organizational needs: *"[The company] is monitoring changes in their environment closely, assessing possible impact on their PMS and taking harmonization actions accordingly"*. Also, case H underlines that the organization is facing a dynamic and rapidly changing environment where *"no fixed anchored and long-term strategy can exist"* and elaborates on the advantage of utilizing the OKR framework in regard to alignment as *"it enables the company to react flexibly towards environmental changes"*. Therefore, the firm particularly empowers employees to enable *"thinking about, understanding and questioning contingencies that directly affect their work environment"*.

The majority of case reports have not referred to any continuous reflections for using PMS dynamically related to contingent factors or updating the PMS. This indicates that although

companies are partially aware of the contingency challenge, the PMS usage is mostly rigid. However, the analyses show that companies' PMS plays a vital role in managing complexity and varies in the way how the PMS assists the management in coping with complexity. For example, case H presents that the interactive use of control supports the firm in dealing with complexity: *"Enabling control plays an important role [for managing performance] ... gives employees increased autonomy by thinking about, understanding, and questioning contingencies that directly affect their work environment"*.

Additionally, the analyses of cases such as D, F, and G support this approach and facilitate company-wide learning and strengthen informal PMS usage to reduce *"issues out of uncontrollable sources"* (Case D). Considering that empowering all employees can enable the entire organization to meet the challenge of increasing complexity, the case analysis indicates that the dynamic usage and design of PMS should be advocated and promoted throughout the organization. This can be supported by the finding that employees at the management levels are more subject to coercive control and therefore limited to balancing the usage of autonomy and exercised control to better cope with complexity.

Case G illustrates another approach to coping with complexity. *"It is the company's attitude which is one of the keys to the firm's success"* The organization leans on strengthening its familiar oriented organizational culture, collaboration in teams, and the understanding of learning as *"an opportunity to ... gain further experience"* instead of using the performance evaluation for example to correct employee mistakes. Case F also uses enabling co-development of performance targets and KPIs to leverage the benefits of increased employee initiative and convey a sense of employee responsibility and ownership over projects. These examples highlight that managers are aware of the link between participation and increased employee performance, thus PMS effectiveness. According to case F, the *"managers develop these goals in cooperation with the employee during the review process, and then use them for evaluation, which has been shown to increase employee performance"*.

4.4. PMS Consideration & Effectiveness

The following section presents findings of managers' considerations and managerial awareness about their PMS grouped into three themes, namely imprecision of the objective (i.e., illustrates the relationship between the type of control and organizational hierarchies), unintended consequences (i.e., reflects on the implications of negative path-dependent

conduct and lock-in in terms of effectiveness), and balancing and adjusting (i.e., suggests that effective PMS is a result of balancing a firm's PMS through congruent decisions).

Imprecision of the Objective

The analysis reveals that managers of case companies, such as D, E, and F, are not clearly aware of the driving factors for PMS effectiveness towards its objectives. Some cases mentioned PMS objectives ranging from PMS activating the flow of information (e.g., case F), meeting the financial expectations set by shareholders (e.g., cases A and G), increasing employee performance to meet the goals of the entire organization and therefore managing complexity due to a high degree of uncertainty (e.g., case H). Further, case E describes the coherence of PMS with what is defined as OE. The company's "*primary objectives are to maintain its existing customer base while growing business and profitability with existing and new customers, as well as shifting into new product development*". Along with these three aspects, the case report describes "*three key performance metrics that case E identified as closely linked with their primary objectives*". This case explains the cascading approach from the overall PMS objective to breaking down KPM.

Moreover, the extent of coherency between the organization's goals, PMS objective, design, and usage varies between the cases. The majority of case reports indicate a lack of coherence. For example, case E describes "*inconsistencies between corporate strategy and the use of the PMS, [exemplified by the disconnection] ... between the corporate objectives and what is awarded*". Case D also illustrates that although the manager is aware of the cause-effect relationships towards the PMS objective, "*such a link is not particularly visible to the people that are affected by them*". In contrast to these examples, case H elaborates that due to the "*intensive use of the OKR framework the firm's strategy [and] objectives and KPIs are strongly connected*" the manager is supported to strive for the coherence of PMS usage with design and consideration towards PMS effectiveness.

In terms of the PMS purpose attainment, cases A, B, and F also reveal that there is any inconsistency between the corporate goals and the defined purpose of the PMS (see Table 6). For example, case report A states the corporate goal is to "*foster a culture with a growth mindset enabled by diversity, employee satisfaction, and a shift from a 'Know-It-All' to a 'Learn-It-All' logic*". It also underscores the company's intention to adopt a learning approach to ensure its long-term survival. However, comparing this statement with the explanations of the introduced BSC, "*which on the highest organizational level summarizes*

the general objectives for the firm and includes different targets in terms of longevity”, it does not match the definition of the effectiveness of the PMS of reaching strong learning.

Additionally, it is noticeable that the manager of case company H is aware that the PMS can only fulfill its purpose if the complexity of driving factors for PMS effectiveness is understood. Therefore, the company strives for continuous performance improvement by *“thinking about what [can be done today] to move forward to hit their goals”*. The interactive way the PMS is used supports the dynamic approach of the PMS. On the one hand, all employees are encouraged to participate in identifying PMS drivers, which additionally makes them aware of performance determinants and supports the behavior alignment towards the objective. On the other hand, the PMS adapts to the organization's needs dynamically. Also, case H exemplifies how the manager strives towards the fit by adjusting the PMS according to organizational needs: *“Leadership utilizes an interactive use ... to concentrate their attention to the growth metric and use this to drive employee behavior[,] attention and coordinate operations and strategy”*.

The same issue is raised in the analysis of case G. According to this case, each manager defines the most essential PMS drivers themselves, depending on what they consider as important: *“the [key success factors] do not necessarily need to represent or align to the corporate objective, but rather, they are what are perceived as important by managers”*. This also means that the goal of each manager's team is defined according to his or her standards instead of defining it in terms of organizational goals. In contrast to this case, case H has adopted the OKR framework, which by default defines the strategic intent and aligns key results and initiatives to that goal. Case H reports that all key outcomes are broken down based on the co-founders' goals. Regular feedback loops support the process of aligning employees' behavior with organizational goals.

“The appraisal system ... is further enhanced by its bidirectional nature, [that is], managers appraise their teams, but also receive valuable feedback that needs to be backed up with solid arguments. This undeniably creates commitment and employee satisfaction, which in turn leads to higher performance” (Case H).

Unintended Consequences

The analysis also found that managers are less aware of the unintended negative consequences resulting from the design and use of PMS. This is significant in cases such as

cases B, C, E, and F, indicating path-dependent behaviors due to, for example, relying on historical data, no PMS life-cycle approach, or no awareness of PMS dynamism. In particular, the awareness of the risk of path-dependency seems to be significant for these companies when considering that without compensation, the potential effectiveness of the PMS in achieving organizational goals is thereby reduced. However, the case reports do not present managers' awareness of such potential negative effects.

Path-dependency is most evident in cases where companies use a cascading approach to PMS design and usage, such as cases A, B, G, and H, and do not intend to facilitate bilateral information flow by iterative feedback. The performance reportings are used for an informative purpose following the intention of *"providing regular updates as well as posting information such as presentations and reports on the website to keep all stakeholders informed"*. Further, as case A demonstrates, the tendency to more coercive and restrictive control does not support the bilateral PMS usage. Case A PMS is used primarily to make decisions about targets following *"an efficient top-down approach"*.

Interestingly, case A begins the goal-setting process for the corporate balanced scorecard using AI technology, but in contrast to the other cases relying on technology supporting the PMS usage, case A complements this linear approach by establishing meetings where employees share tacit knowledge through informal dialogue: *"The process starts with the Engineering Group using AI in alignment with the finance team to determine the budget and corporate target setting for its scorecard KPIs"*. Additionally, case report A points out practical actions for compensating the past-dependent behavior by leveraging active feedback loops to enable interactive use of control, learning, and growth while considering the adaptation of PMS design and deployment based on the PMS life-cycle. Furthermore, case D aims for *"an orientation for future employee growth, contrary to history-focused evaluation"* and showcases its proactive approach to compensating for path-dependent behavior.

The analysis shows that managers have limited awareness of past-dependent behavior as a risk for limiting the PMS effectiveness and, therefore, the need for compensating it proactively and thus adjusting the PMS usage. For example, case B indicates ignoring this risk of limiting PMS effectiveness. The case describes that the manager is unaware of neither PMS improvements nor changes such as adding or removing specific measurements:

"Regarding the strength and coherence of the PMS, the [manager] feels content with the current set of measures and is satisfied with the linkage between these measures

and how they are used ... There are no specific measurements he desires to add or remove from the current ones.”

Balancing and Adjusting

An effective PMS is not about pursuing only one type of control (e.g., diagnostic or interactive) but rather about ensuring a balance between instances. Five case reports indicate a PMS which is mostly unbalanced, for example, in the sense of managers being unaware that the company exercises a different kind of control than their intention is (Case A & F). This finding underlines that the PMS balance attainment seems to be difficult to achieve (see Table 6). In contrast, the analysis of case D exemplifies a balanced PMS by trying to congruent PMS characterizations, tools, and linkages that make up that PMS with the organization's needs. Also, case D can be highlighted as the manager recognizes and considers the systemic potential of the PMS and can address current challenges and issues in PMS design and usage, such as the misalignment of the reward system with the performance evaluation category. Case D points out interrelationships and how changes in one PMS category affect other categories. For example, if the company emphasizes employee appreciation, *"they are better equipped to retain workers and build a long-term culture of success"* (Case D).

The analysis of case B emphasizes that the extent to which adjustments to the PMS are perceived and implemented depends on the person's position within the organization. The higher the person is in the organizational hierarchy, the more the set targets can be adjusted. This indicates that someone at a lower level is limited to finding a way to achieve the goal, regardless of whether it is realistic or not. Case F follows the same logic and describes that the *"formulation of the goals leaves little room for flexibility"* justified by sticking to the BSC framework structure, which defines goals by following a cascading approach. It is striking that the manager of case F is aware of this issue. The case report refers explicitly to not adjusting targets and thus having wrong targets set so that *"[targets] weren't reached. Consequently, criteria in addition to last year's performance should be used to set more realistic targets and prevent the targets from having to be adjusted during the year"*. However, case B adds that if a poor result of a KPI attracts attention at a higher management level, further investigations are needed. On this level, the firm aims to adjust KPIs to avoid unrealistic target settings and incorporates different teams related to it to address the problem holistically. Only then *"management decides alone on the adjustments needed"* (Case B). This example shows that iteration, a multi-perspective and holistic review based on

consultation with other departments, is a lever to reduce path-dependencies that are detrimental to the organization and the PMS effectiveness if ignored. PMS that do not value enabling characterizations, such as learning, adaptation, and iterative approaches, are limited to adopting shortcomings (e.g., rigidity and diagnostic characteristics) of the tools that make up the PMS (e.g., BSC).

Furthermore, cases D and H, in particular, describe how employees' performance can be improved in alignment with organizational goals. Therefore, target setting and performance evaluation are more tightly connected; these PMS categories get reviewed and adjusted if necessary. Each evaluation ends up by either increasing the expectation for setting the next target or handling the deviation by, for example, the formal characterization of initiating an individual employee program aligning the behavior with the organizational objective. Contradictorily, as aforementioned, in most cases, managers' awareness of updating the PMS according to organizational needs is rarely present. However, the analyses show that managers would be able to adjust the design and use of the PMS according to their position.

Moreover, the analyses indicate that managers have mostly limited (low or medium-level) awareness of the systemic value and thus the potential, but also the risk, of systemic PMS (see Table 6). While managers are aware that PMS is fundamentally relevant for strategy and increasing productivity, very few critically question PMS's effectiveness overall, its design, and its usage. Even if managers in some case studies are aware of the drivers of PMS effectiveness, i.e., if they are aware of the systemic value of PMS, managers rarely change the design and use of PMS accordingly. Thus, they do not fully exploit the potential of higher PMS effectiveness. In contrast to these cases, cases D, G, and H exemplify managers who are more aware of the systemic value of the PMS. These case reports have in common that managers approach a balance of interactive and diagnostic control, emphasizing bilateral communication flows (top-down and bottom-up), having the intention to involve and empower employees as PMS agents for continuous improvement towards PMS design and usage, and lastly, the consideration of utilizing iterative performance monitoring for enhancing feedback and learning.

4.5. Overview of Empirical Findings

As evidenced throughout our empirical findings and analysis, we have a diverse yet insightful set of empirical takeaways organized by themes. Consequently, each cluster of themes corresponds to an aggregated grouping, that is, PMS design, usage, or consideration. We have

constructed an overview of our empirical insights to facilitate comprehension of our results and bridge the transition between empirical findings and discussion (see Figure 3). It should be noted that this recapitalization is non-exhaustive of our findings and thereby captures only the most predominant insights per theme classification.

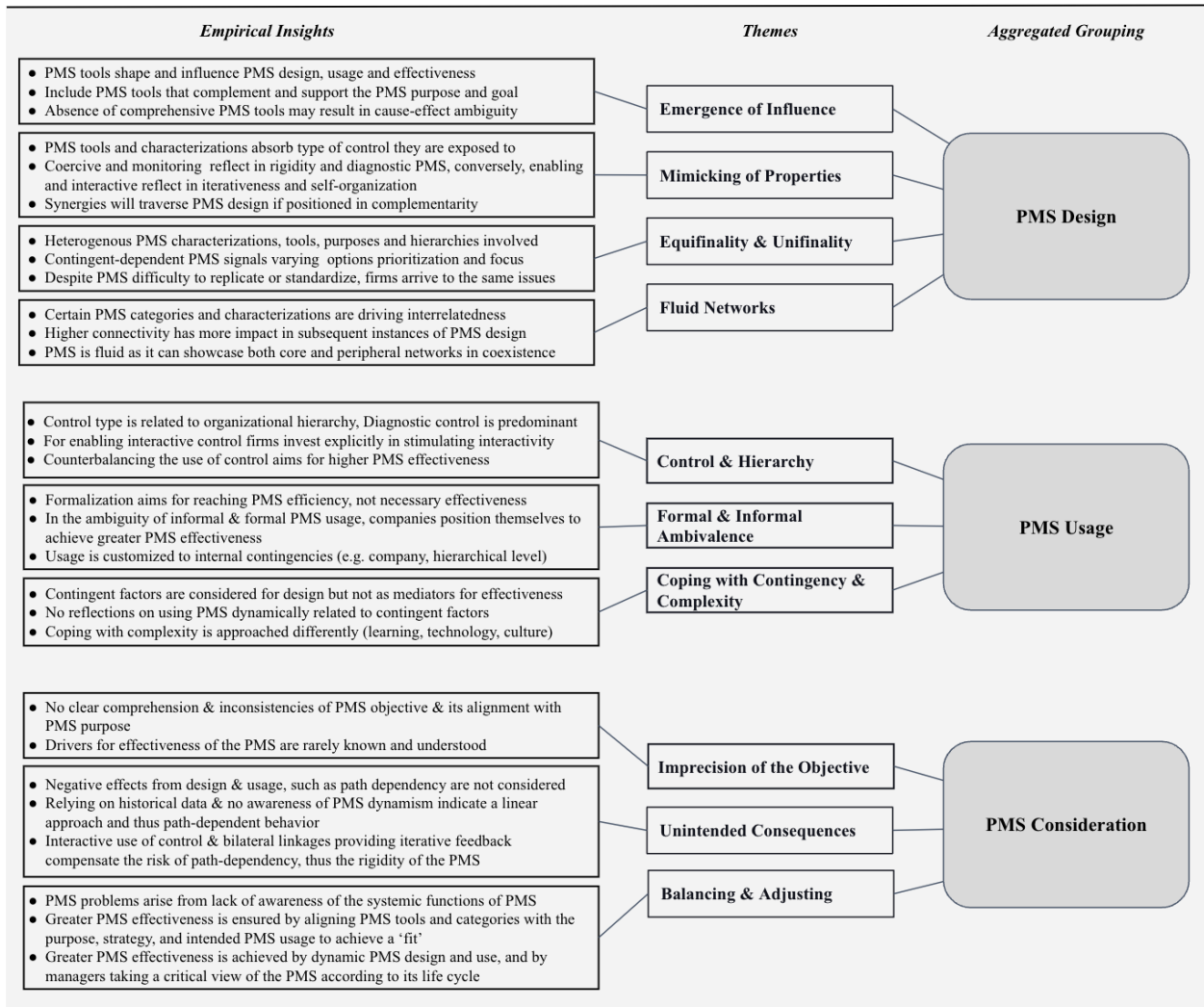


Figure 3: Overview of Empirical Insights and Themes

5. Discussion

Building upon our analysis, this chapter discusses the empirical findings according to our research question by referring back to the theoretical findings we constructed in Chapter 2. Moreover, this allows us to focus our discussion on insights that are relevant to the research objective, which is about exploring the systemic value of PMS. Using our empirical overview as the basis for our discussion (see Figure 3), we extend our interrelated findings to illuminate a discussion of the system-based view of PMS design, usage, and consideration and thus the insights that our analysis can suggest.

In this section, first, empirical findings regarding the PMS will be discussed by comparing and positioning them with the existing body of literature regarding PMS theory. Secondly, we will discuss the findings in regard to the theoretical framework consisting of five theoretical lenses: three are part of traditional MC theories, namely, systems, complementarity, and contingency, whereas the remaining two give insight into manager's struggles to reach PMS effectiveness due to lock-in and complexity, respectively.

We will focus on particular findings according to their relevance to the research question and previous research. Accordingly, the findings will be discussed across dimensions to highlight their contribution in its entirety. This could result in some more specific findings being neglected within the discussion. However, since the purpose of this thesis is to contribute exploratively to the understanding of how PMS is designed, used, and considered within companies, this approach was deemed appropriate.

5.1. Reviewing PMS Theoretical Background

In the following, the elementary results of the empirical study will be discussed by referring back to the literature regarding PMS theory, constructed in Chapter 2.1. The discussion is structured by the findings of i) PMS functioning to serve budget control, ii) how PMS effectiveness can be mediated, iii) how PMS shapes employees' behavior, and iv) the tendency of PMS leaning towards a package perspective will be discussed.

Implications of Traditional and Forward-Looking PMS

The empirical analysis portrays that PMS mainly functions to control companies' budgets. According to scholars, this function is based on three essential functions: Scorekeeping, Controlling, and Business Support (Järvenpää, 2007; Chapman, 1997) which the managers

indirectly referred to. Considering that PMS theory and practice are originally based on accounting literature and were primarily used to address the challenges of efficiently carrying risk, monitoring, and binding the contract package, it can be explained why PMS in design usage and consideration is focused mainly on financials and, therefore, the use of control tends to be per default diagnostic and coercive. The empirical study illustrates that managers associate with PMS in a way mostly coercive, diagnostic, and managerial control is exercised within the company. In contrast and in contradiction to Demartini's (2014) demand, a broadening of scope and strategically oriented function of PMS is predominantly resisted. Also, the study confirms that companies follow a top-down direction due to its cascading PMS design approach. This can be questioned regarding its PMS effectiveness as Neely (2008), and Kraus and Lind (2010) explicitly criticize PMS tools that predominantly follow a top-down direction, and the authors express their difficulty in providing any impact on performance. The analysis reveals a historical dependent, old-established and conservative model of PMS, although Otley (1999) has already published research more than two decades ago, stating that a more enabling way of exercising managerial control drives performance by emphasizing leading indicators for strategy and operations.

The findings emphasize that managers focus less on interactivity, self-democratization, and enabling factors to increase PMS effectiveness. Thus, fewer companies apply a more 'modern', that is, leading and forward-looking, view of PMS, which entails iterative and dynamic usage. However, the intention of having the transition is present in most of our results, but it is not effectively attained in several cases. This underlines that the PMS evolution from the accounting literature and its primary function to address the challenges of efficiently carrying risk, monitoring, and binding the contract package has a substantial impact on managers' understanding of what PMS means for OE.

The Role of the Manager in PMS Effectiveness

The analysis reveals that PMS affects, in accordance with Franco-Santos et al. (2012), all levels of the organization. However, particularly the higher managers work within the organization, the more PMS information is processed. Among other authors, Franco-Santos et al. (2012) found out that PMS impacts processes, activities, or abilities to enable companies to succeed and gain a competitive edge, which could be confirmed by our findings.

Furthermore, the multiple-case study presents that managers associate a PMS as effective if corporate control is exercised (Cruz, Scapens & Major, 2011) to reach strategic alignment

(Ahn 2001; Dossi & Patelli, 2010) and increase accounting performance which goes along with Ittner, Larcker and Randall (2003). It is worth pointing out that the analysis showcases Schleicher et al. (2019) statement that managers are not fully aware of what various mediating variables can influence their PMS effectiveness. In line with Gong and Ferreira (2014), it seems challenging for managers to identify the interrelationships between PMS categories, such as what causes the overall variation in performance, for example, whether it is caused by the individual performance or system factors. It seems like an assessment of cause-and-effect relationships would require managers to take a holistic view of the PMS. The analysis presents managers being rarely aware of this requirement.

In line with Schleicher et al. (2019) findings, this study presents mainly employees' behavior, motivation, and participation as well as learning as mediating aspects of PMS effectiveness. In particular, case D highlights these drivers by explaining that employees learn through PMS, particularly regarding attitudinal and motivational learning, and may use what they have learned to enhance their attitudes and performance.

It is striking that managers are unaware of any unintended negative consequences resulting from their PMS design, usage, or consideration. Therefore, we build on Demartini's (2014) opinion that the extent to which neither positive nor negative consequences of PMS design, usage, or consideration heavily relies on the manager's actions and attitudes. This empirical study emphasizes that managers' role seems to be an essential factor for PMS effectiveness, as Schleicher et al. (2018) suggest.

PMS as a Behavior-Modeling Mechanism

According to the empirical findings, PMS mainly serves for management control, in particular by formalized control which includes rules, standard operating procedures, and budgeting systems. Thus, the analysis underlines that companies designed PMS based on the understanding of control as OC in line with Malmi and Brown (2008) to merge the conception of MC with the behavioral aspect of MCSs (Anthony et al. 1992) and of their contribution to organizational change and learning. Also, companies implement tools to manage the usage of resources efficiently and effectively (Anthony, 1965) by strengthening the alignment between strategy, objectives, and decision-making.

As research also confirms, the role of PM is highly relevant to business strategy (Cadez & Guilding, 2012; Langfield-Smith, 2005), which is also visible in our case reports. Thus, it can

be concluded that organizations rely on strategically aligned PMS to translate strategy into performance measures (Chenhall, 2005). The empirical study demonstrates that for aiming towards a firm's strategy, managers are aware and consider focusing and adjusting the alignment of employees' behavior with organizational objectives, in line with Kerr (1995). For leveraging the PMS alignment, companies use various PMS categories. For example, the reward category of a PMS serves as a function to shape employees' behavior to increase their performance. However, the analysis confirms that companies' PA is neither necessarily nor clearly linked to the strategy, which goes in line with research by Espinilla et al. (2013). Nevertheless, according to the analysis, it cannot be presumed that managers are aware that failing to set a firm's reward systems adequately may crowd out intrinsic motivation, which Barnes et al. (2011) claim.

The analysis showcases that managers primarily focus on how their performance can be increased, always looking forward to enhancing organizational performance. Also, companies seem to struggle to define how effectiveness can be mediated. Following scholars (Den Hartog, Boselie & Paauwe, 2004), managers seem to be conscious of the critical impact of employees' behavior influenced by their individual perception of PMS categories such as reward systems. A few cases showcase learning as a mediator for PMS effectiveness, also highlighted by Schleicher et al. (2019). Also, some managers explicitly mention that employee motivation and participation promote a performance improvement culture, along with Micheli and Manzoni's opinion (2010).

Aiming for alignment and thereby shaping employees' behavior is reflected in managers' considerations of how the PMS is used. The analysis presents that Simon's (1995) levers of control framework and the dichotomy of enabling and coercive use of control (Ahrens & Chapman, 2004) are relevant for practitioners. The cases show that managers vacillate between "freedom and constraints, empowerment and accountability, top-down direction and bottom-up creativity, experimentation, and efficiency" (Simons, 1995, p.4 in Tessier & Otley, 2012). The findings illustrate that companies rarely initiate changing the use of control. In a few cases, managers present the awareness of explicitly investing in changing it towards a more enabling manner.

PMS Packages Withstands PMS Systems

The empirical study reflects that companies, on the one hand, use the expression of PMS but are, on the other hand, not aware of the systemic value provided by taking a system-based

view of PMS. Further elaboration on the system-based view regarding the assessment of the five theoretical lenses will be provided in Chapter 5.2.

Overall, managers pay limited attention to the well-integration or coordination of various PMS categories and, therefore, the entire PMS, which corresponds with Grabner and Moers's (2013) observation resulting in the characterization of PMS as a package. Despite managers' unawareness in most cases of the PMS fit, scholars claim that empirical research on PMS has provided unclear and inconsistent results on how the linkages are defined and function (e.g., Merchant & Otley, 2007; Ferreira & Otley, 2009). Therefore, the request for a holistic view of all PMS implemented categories is fulfilled by Malmi and Browns' (2008) claim for considering PMS as a package.

This ongoing debate among researchers about PMS as a package or system is not mentioned by the managers. They neither implicitly nor explicitly distinguish between PMS as a package or as a system. Overall, the empirical analysis challenges the assumption that PMS packages or PMS systems are just one or the other, as Malmi and Brown (2008) claim. Instead, following Demartini and Otley (2020), the companies' PMS is to be classified within a systems-based spectrum of PMS as a package or as a system rather than that of dichotomies based on their degree of coupling. Nonetheless, the data shows that most company reports lean more toward the PMS package perspective, in line with Merchant and Otley (2020). For example, the report for Case D explicitly states that the company's PMS "consists of groups of loosely coupled elements [and] considers control packages rather than control systems."

The analyses let us conclude that, in reference to Malmi and Browns' (2008) considerations, making managers aware of what the package view on PMS is about could increase the awareness of a holistic view of the PMS, which might be relevant for the implications for the composition of an existing PMS but also for the categories that will be introduced in the future. Particularly, this is even more crucial considering that several managers adopt the entire PMS design, usage, and consideration within its life-cycle.

However, if companies would aspire to consider the PMS as a system, they would aim integrating various PMS categories while being internally consistent explicitly, thereby recognizing interdependencies and cause-effect sequences that, e.g., Otley (1980) sees as an essential factor for arguing for PMS as a system. Thus, interrelated categories of a system would be more designed to function together as an entire system to achieve a common purpose that is not attainable by each part on its own (Boulding, 1956; Bourne et al. 2018;

Rechtin, 1991). The analysis shows that managers could benefit from consciously adopting this perspective to increase the effectiveness of their PMS.

5.2. Assessing the Five Theoretical Dimensions

Throughout this research study, we have reiterated the use of five theoretical dimensions, namely, systems, complementarity, contingency, path-dependency, and complexity theory, as the basis for our theoretical framework (see Chapter 2.2.). The rationale behind the use of these theories in our empirical analysis is to frame the function of fit in the context of PMS design, usage, and consideration.

We argue that the concept of fit goes beyond a coalignment of factors and a strong linkage with strategy, as Child (1975) as well as Gupta and Govindarajan (1984), suggest. After going through the key takeaways of our study, we see that the systemic value that arises from a system's fit follows a logic of congruence and alignment rather than of consistency and interrelatedness. Moreover, Venkatraman (1989) considers a dynamic perspective of fit by acknowledging that no organizational system is perfectly aligned. However, every organization is making that transition. This notion of a dynamic fit in PMS most accurately captures our empirical results because it acknowledges the impact of internally contingent-based and complexity-driven PMS. Under this reasoning, firms construct their PMS with a certain degree of awareness (i.e., deliberate decisions enforced that capture cause-effect sequences across their PMS), strive for coherency, yet often remain inconsistent and contradictory. As such, no PMS is perfect or serves complete standardization, and the utmost PMS is one that attains its purpose, is balanced and gets hold of its effectiveness.

We will now clarify how our theoretical framework guided us to reach the above-mentioned statements. Therefore, an assessment per theoretical lens will follow to determine its contribution to the PMS examination in terms of our empirical insights.

Systems Theory

Sauser, Boardman, and Gorods' (2008) definition of a system sustains in our empirical study. The PMS present in the companies we examined functions as an assembly of a collection of parts that form a whole and have a purpose. In this sense, the parts are mostly referred to as the hierarchy (e.g., management, team, and individual), the category (e.g., rewards, review, and control), and the business department (e.g., finance, human resources, and sales). The case reports present a good understanding that PMS is an enabler of performance across

teams, departments, and PMS categories. In terms of purpose we see that companies do have a set of PMS purposes (e.g., monitoring, empowerment, and learning) they wish to accomplish. However, there is an ambivalence of what is the narrative they want to impose in their organizations and what is happening in reality, which serves as a predictor of the capacity to attain their effectiveness successfully. An important characteristic of systems that is an obstacle in most of our cases is having clarity in their interdependencies, interconnectedness, and openness within the collection of parts. This problem challenges Kichigina (2017) and Baldwin, Boardman, and Sauser (2013) view on systems since a holistic comprehension of PMS is lacking. We attribute the variance in consistency found in our data as a direct result to the presence of both core and peripheral networks in PMS design. In addition, our data suggests that inconsistency is a reflection of neglecting cause-effect sequences or at least considering them a priority.

From the five system attributes discussed by Bourne et al. (2018), we can indicate that each attribute varies in incidence. For example, belonging and diversity are the two attributes that the reports have an easier time illustrating, as the cascading effect of dominance and the complexity of PMS are generally accepted principles. Meanwhile, autonomy is mostly present in companies that use enabling approaches to control, and in a lesser amount when coercive control limits the latitude of action of managers and even more so to that of lower-level employees. The attributes of connectivity and emergence tend to be more abstract concepts that are addressed implicitly instead than explicitly through PMS characterizations or values. Also, we see that practitioners have a harder time grasping terminologies that are important for systems theory but less applicable in real-life contexts.

Complementarity Theory

Being capable of identifying direction and intensity through a complementarity lens allowed the study to reflect on how unilateral linkages in a top-down cascading approach can have serious repercussions on the way PMS is used and designed. Our study adequately reflects on Milgrom and Roberts (1995) as well as on Clemson (1991) in that the perspective that enforces control, rules, and characterizations in PMS is the root-cause agent of escalating effects. This has a strong implication in the difficulty for some companies to balance their PMS since a certain control can be too dominant while they have the intention of inserting an opposing type of control. Under this logic, strategies and underperformance of PMS manifest the notion of substitutes that Gerdin (2005) debates on. This argumentation contributes to the

discussion on synergistic effects that Choi, Poon, and Davis (2008) deliberate on by stating that synergies are not necessarily a result of mutually complementary PMS characterizations and activities. Thus, negative complementarity effects can intensify and illustrate crowding-out effects due to synergies, intensification, and unilaterality. Conversely, PMS that builds on different yet complementary characterizations tends to be more balanced and demonstrates that holism and alignment can be achieved by congruent decision-making.

Contingency Theory

The assumption of contingency that Cadez and Guilding (2012) suggest holds in our findings. Therefore PMS does not follow a one-size-fits-all reasoning. Attempting to fully standardize is not only a simplistic and reductionist mentality that goes against complexity and contingency, but it also undermines the consequences of systemic PMS. The specifications, purpose, and effects of PMS are different in every company as it is contingent-dependent. Our findings suggest that even in the company cases that report similarities in their PMS design, the effects it will generate will certainly change as PMS usage and consideration may not be as easily replicated as PMS design. Therefore, we are in agreement with Otley (1980), Rejc (2004), and Ferreira and Otley (2009) in that the effectiveness of a systemic PMS depends on a high regard for the specific organizational and contextual factors. Nonetheless, we add to this discussion that there is also no unequivocally wrong PMS, but there definitely is less effective and less adequate PMS.

The results indicate that it is infeasible to analyze the systemic value of PMS by looking at each category individually due to system contingency. The study shows that PMS, therefore, requires a holistic view. This is consistent with Fisher's (1995) critique that the main shortcoming of contingency control is its piecemeal or isolated approach. For this reason, we developed a holistic view of PMS design, use, and consideration and avoided giving preference to any particular aspect of a company's PMS. In this way, we were able to take a holistic view of the PMS and examine its effectiveness due to the interactions between internal factors. For visibility, we acknowledge that a limitation in our data is that there were few instances of external contingency, as the company reports focused mostly internally.

Path-Dependency Theory

As Djelic and Quack (2007) point out, path-dependent conduct emerges when decisions and effects are realized without complying with efficiency. This research discusses the

organizational implications of lock-in. In alignment with Pierson (2000), we suggest that resistance to change in a PMS is notable when information flows through a top-down, tightly linked, and peripheral network. Hence, path-dependency theory serves this study to reflect on non-systemic value.

We support the view that path-dependent behavior is problematic when it generates organizational rigidities, strategic inertia, or is unintended. The empirical study expands on these issues by illustrating PMS that fails in dynamism and consequently lacks systemic potential. Also, the inability of managers to address change and adaptation through iteration or learning undermines the possible attainment of enabling and interactive controls. Perhaps most poignant is that unintended consequences result from an inability to be aware of how a firm's PMS functions, and thereby, the decisions that back up its composition and usage are not deliberate. If companies do not realize that PMS (as a whole, in a sequence, or in specific characterizations) has the capacity to mirror or absorb properties, the PMS will be at risk of not attaining its objectives or purpose. Therefore, we double-down and provide further empirical findings on Greener's (2004) concern in that managers ought to understand their PMS to avoid lock-in, and more so to identify the factors or agents that are influencing its functioning. In similitude with complementarity theory, we see that not all path-dependency is obstructive, but it is crucial for managers and organizations to acknowledge its effects. Failing to do so may lead to a PMS that will not obey a logic of efficiency and can succumb to lock-in, as De Munck (2022), Djelic and Quack (2007), and Greener (2004) assert.

Complexity Theory

In contrast to organizational inertia, we leverage the foundations of complexity theory to explain how companies from our empirical study are capable of balancing their dynamic PMS and investing in learning and feedback. We support the idea that the spontaneous self-organization that Arndt and Bigelow (2000) propose is the key to navigating complexity. Along this line, we see that companies tend to reflect self-democratizing PMS when they empower their employees and where feedback is an example of bilateral linkages (e.g., both top-down and bottom-up flow of information). Our empirical data shows that employees have the potential to become PMS agents. If PMS is implemented and considered at differing instances of the hierarchy, it will also have a higher number of inputs that are constantly feeding the PMS' own cyclical nature. As Sammut-Bonnici (2015), Styhre (2002), and Bechtold (1997) discuss, companies that function as iterative self-organizations tend to have

a PMS that is constantly being challenged. Questioning strategic assumptions comes into play through more complex characterizations, uses of controls, and network typologies.

5.3. Criticism of the Baseline Framework

This research significantly stems from Ferreira and Otleys' (2009) PMS framework, which has a salient role in the structure and the investigative quality of our empirical material. Therefore, we intend to express our perspective and experience about this framework's ability to assess systemic value.

We argue that Ferreira and Otleys' (2009) framework is actually not an appropriate model to assess systemic value by itself. The authors use the last dimension (i.e., Q12 Strength and Coherence) to evaluate if the PMS is enforced through a logic of systems and fit. Our empirical material indicates that half of the cases, namely cases A, E, H, and F, expand on this dimension through implicit and even sometimes ambiguous observations. The issue is two-folded: practitioners have difficulty in these cases providing explicit and concrete results on their PMS strength and coherency; and researchers are left to expand on these concepts through discussion. The inability of the PMS model to reflect on PMS systemic value can be an indicator of why it fails to bridge the gap between theory and practice, although the model is intended to grasp these systems notions within PM, hence its name.

What is more, despite applying the framework to support companies in describing the more obvious characterizations of PMS, we see that it is still missing vital attributes of PMS design, usage, and consideration. For instance, the framework is not explicit in how interconnectedness and interdependencies between categories and characterizations are made and how they work. A portion of the researchers in our empirical material express their dissent about the absence of guidance from Ferreira and Otleys' (2009) PMS framework in this regard. Consequently, assessing the strength of a PMS is an abstract idea that both researchers and practitioners struggle to apprehend. Also, the framework's authors neglect certain PMS categories, most notably performance review, as researchers and practitioners described these processes as part of their evaluation segments. Nonetheless, the ambivalence between the understanding of what is categorized as evaluation and its distinctiveness from the review category is latent across the data. This is troubling when it interferes with the quality of the study and undermines the research inquiry.

6. Conclusion

The purpose of this study was to explore how managers comprehend the systemic value of a company's PMS. To examine this, the following research question was formulated:

How is PMS designed, used, and considered from a system-based view within companies?

Based on the results of implementing a multiple-case study of eight case company reports, we analyzed the multifaceted and complex nature of PMS and its systemic value. The following section will provide an answer to this study's purpose. Thereafter, the theoretical and practical implications will be outlined. Lastly, this chapter closes by stating our research limitations and suggestions for future research.

6.1. Research Resolutions

As discussed throughout this thesis, our study revolves around three pillar-classifications, namely PMS design, usage, and consideration. Besides, we examined these groupings to analyze the systemic value, resulting in the following resolutions.

PMS Design, Usage, and Consideration

Based on the empirical findings, its analysis and subsequent discussion, this thesis illustrates sound results per PMS aggregated grouping. Hence, this research contributes with five concluding remarks regarding PMS design, usage, and consideration. It should be noted that the first three refer directly to a distinct PMS life-cycle phase, while the last two are intended as encompassing tensions that affect systemic potential present in various PMS phases.

First, this thesis has found that PMS design is heterogeneous, contingent-dependent, and complexity-driven. This is true for the PMS categories found in a company's PMS, as well as how its characterizations interact with each other. Hence, PMS reflects equifinality. Also, its networks function in fluidity; that is, a PMS has both instances of connectivity-rich and connectivity-deficiency. In turn, these findings have implications on the type of linkages (i.e., loose or tightly-coupled) and the intensification of complementarity effects (i.e., function as substitutes or complements).

Second, in terms of PMS usage, this study identifies the type of control (i.e., coercive and enabling controls) and the lever of control (i.e., belief, boundary, diagnostic and interactive

controls) present in a PMS that permeates rapidly in a PMS' DNA. Thus, PMS' use of control has the ability to dictate and model: i) how PMS is practiced (e.g., which stakeholders and hierarchies participate), ii) how PMS direction is structured (e.g., top-down one-way unilateral, or through feedback-loops in bottom-up and top-down approaches), and iii) how employees behave (e.g., using strict formalized dominance or informal learning processes).

Third, regarding PMS consideration, this thesis found that PMS has the capacity to reduce the risk of lock-in, mostly as a consequence of high awareness, and therefore enhance strategic renewal. Additionally, we argue that PMS is a balancing act of congruent decision-making to align PMS objectives with its purpose.

Fourth, this thesis has identified a tension between leading and lagging PMS, most specifically, if it follows a traditional perspective or an outward-looking perspective of considering, designing, and using a PMS. Therefore, lagging PMS is more prone to be informative, diagnostic, and rigid, while leading PMS is more difficult to fully comprehend due to increased complexity but depicts benefits from adaptation and enablement.

Fifth, this study suggests an ambivalence between the desired intention of a PMS and the actual assumed reality of that same PMS. A mismatch between the intention and the reality diminishes PMS effectiveness, reflects low systemic awareness, and is at risk of suffering from PMS underperformance. What is more, this tension has implications on how PMS is designed and used due to ensuring that PMS purpose and the characterizations that contribute to that PMS composition are aligned and coherent. As discussed, our results suggest that the underlying root-cause of such mismatch is a lack of consideration from the enactors of the PMS, that is, the managers.

Systemic Value to Capture Fit

Systemic value refers to the ability to reflect the notion of fit, which is circumscribed by three attributes, namely, congruence, alignment, and consistency. Due to their capacity to change, adapt, and resist PMS, managers have a predominant role in acknowledging and capturing fit. Thereby, we focus on the manager's perspective of a company's PMS. Consequently, this thesis suggests that managers' roles in their organization's PMS construct must be in accordance with the attributes of fit.

First, this thesis proposes that managers must design their PMS by actively implementing congruent decisions. That is, being aware of the needs and requirements to be considered in order to better exercise the usage that the PMS is expected to take part in. Failing to be congruent will ultimately diminish the strength of coherency in a PMS. Thus, we argue that randomized or inconsiderate decisions diminish the attainment of PMS congruence.

Second, in addition to congruence, is the concept of alignment. Pertinently, PMS alignment stems from strategically associating PMS purpose or intention with its composition (i.e., design and usage) to achieve the desired objectives and goals. Thus, if alignment is present in complementarity with congruence, PMS effectiveness is attainable. Along this line of argumentation, we assert that PMS design and PMS usage has more incidence in attaining alignment, while congruence can be better explained through PMS consideration (i.e., awareness and reflection). Nonetheless, congruence within a PMS is vital for effective PMS design and usage, as stronger cause-effect sequences in its usage are a result of congruent design. The lack of congruence can be observed in contradictory PMS design, which reduces the chances of attaining PMS purposes while increasing the risk of intention mismatch.

Third, this thesis suggests that PMS is often inconsistent. Yet, a PMS can benefit from inconsistency to attain PMS intention and purpose. As such, this study's results suggest that inconsistency in a PMS (when being a result of awareness and deliberate decisions) supports managers in balancing their PMS. Conversely, the inability to challenge strategic assumptions within a PMS will lead to path-dependent conduct and thereby elevates the risk of lock-in. To solely follow a consistent PMS will most likely imply that managers suffer from rigidity and cannot adapt, course-correct, or iterate the design, usage, or consideration of a PMS.

Fourth, this study proposes that the notion of fit is a reflection of congruence and alignment while being flexible on consistency. We argue that a good PMS is not one that follows an enabling or coercive control, or if the PMS is lagging or leading. Instead, we sustain that an effective PMS is one that is considerate of aligning its purpose with its design and usage through congruent decision-making. As such, capturing fit is possible and ideal. However, if the complexity of a PMS rises, then it will be prone to increase its difficulty to get fully managed or controlled. Hence, managers are better off demonstrating resilience, embracing self-organization, and facilitating awareness.

Awareness of Systemic Value

This thesis argues that PMS awareness is derived from the manager's understanding of the functioning of how their firm's PMS is composed and behaves. Thus, the systemic potential is highly influenced by the degree of awareness apprehended. Accordingly, results from the empirical material suggest that higher awareness can be found in the following: i) direction of information follows both a top-down and bottom-up approach; ii) PMS enactors are capable of challenging strategic assumptions; iii) PMS is used in a multi-hierarchical perspective, that is, it is not exclusive to top management; iv) implements complementary tools and characterizations; and v) tends to follow an enabling and interactive type of control.

The notion of awareness in terms of systemic value is one that tends to be stronger in PMS that challenges its default tendencies, that is, of being diagnostic and coercive. The rationale behind this argumentation is that enabling, iterative, and interactive PMS is often a result of deliberate and congruent decisions in their PMS construct. Conversely, diagnostic and informative methods require less awareness to reflect fit because we argue that PMS has the inherent tendency of being diagnostic and coercive by nature. Nonetheless, we expect that managers design, use and consider their PMS with a certain degree of awareness even if they intend to create a PMS with monitoring, coercive and diagnostic intentions, goals, or purposes. That is to say that all types of PMS must be by design. Hence, they are a fabrication of congruency, alignment, and, to some extent, consistency.

6.2. Theoretical Implications

The theoretical implications of this research support understanding of PMS through a theoretical framework, discussion on the functioning of its phases, and the spectrum of systemic value. Our contributions to the literature are summarized in four indications.

First, this thesis exemplifies a multidimensional theoretical framework comprising five theoretical lenses designed to examine PMS systemic value. Thus, it demonstrates that PMS inquiry can benefit from a multidisciplinary theoretical approach, such as the one outlined and implemented in our research study. Systems, complementarity, and contingency theory permitted analysis of system's behaviors as well as allowed inspection of congruence and alignment. On the other hand, path-dependency and complexity theory facilitated the assessment of boundaries of holism and non-holistic PMS, in addition to analyzing consistency. Thus, the findings of this research suggest that multidimensional theoretical

frameworks advance the identification of nuances in the systemic inspection as well as coherent yet inconsistent PMS.

Second, this thesis screens company managers as the primary enactors of PMS design, usage, and consideration and, therefore, actively reflects their perspective of their organization's PMS. Ergo, we support the claim that managers are capable of portraying a firm's PMS as a whole while also being competent in their internal distinctions. However, this thesis argues that despite managers being enactors of PMS, the PMS as a mechanism is most beneficial when it is constructed with the input and cross-examination of a multi-hierarchical and two-way flow of information.

Third, this thesis criticizes the limitations and inability of Ferreira and Otley (2009) to provide concrete guidelines to assess and examine systemic PMS, that is, coherency and strength, according to the researchers. Therefore, we suggest that a comprehensive theoretical framework is best suited for research of complex phenomena and highly dynamic areas of study, as is PMS.

Fourth, the study contributes to the literature by expanding the discussion on the fundamentals of systemic value in PMS. An important role of PMS is to question its systemic potential and ensure that managers are supported in comprehending the benefits of capturing fit and utilizing PMS systemically. Our data results are encouraging in that understanding the consequences of systemic PMS puts forward a strong case for explaining PMS effectiveness. Also, in terms of the spectrum of systemic PMS, our results suggest that most managers perceive their PMS to follow a package function. Thereby contributing to the debate that despite both systems and packages being present in PMS typologies, we see a better outlook for PMS packages in both theory and practice-relevant contexts.

6.3. Practical Implications

In addition to theoretical implications, this study contributes from a managerial perspective to an understanding of the systemic value of PMS and how PMS effectiveness can be mediated. To assist the reader in apprehending the practical implications, the following Figure 4 summarizes the relevant empirical results cross-referenced to the literature throughout the discussion in Chapter 5.

Based on the empirical findings, we recommend practitioners acknowledge that PMS effectiveness can be increased by comprehension of the systemic value of companies' PMS. By taking a system-based view of PMS, practitioners can raise their awareness of the systemic value of PMS, its effectiveness, risks and potential. This research study provides practitioners with a theoretical framework based on five theoretical lenses, which can enable them to recognize and adequately manage PMS systemically to increase PMS effectiveness.

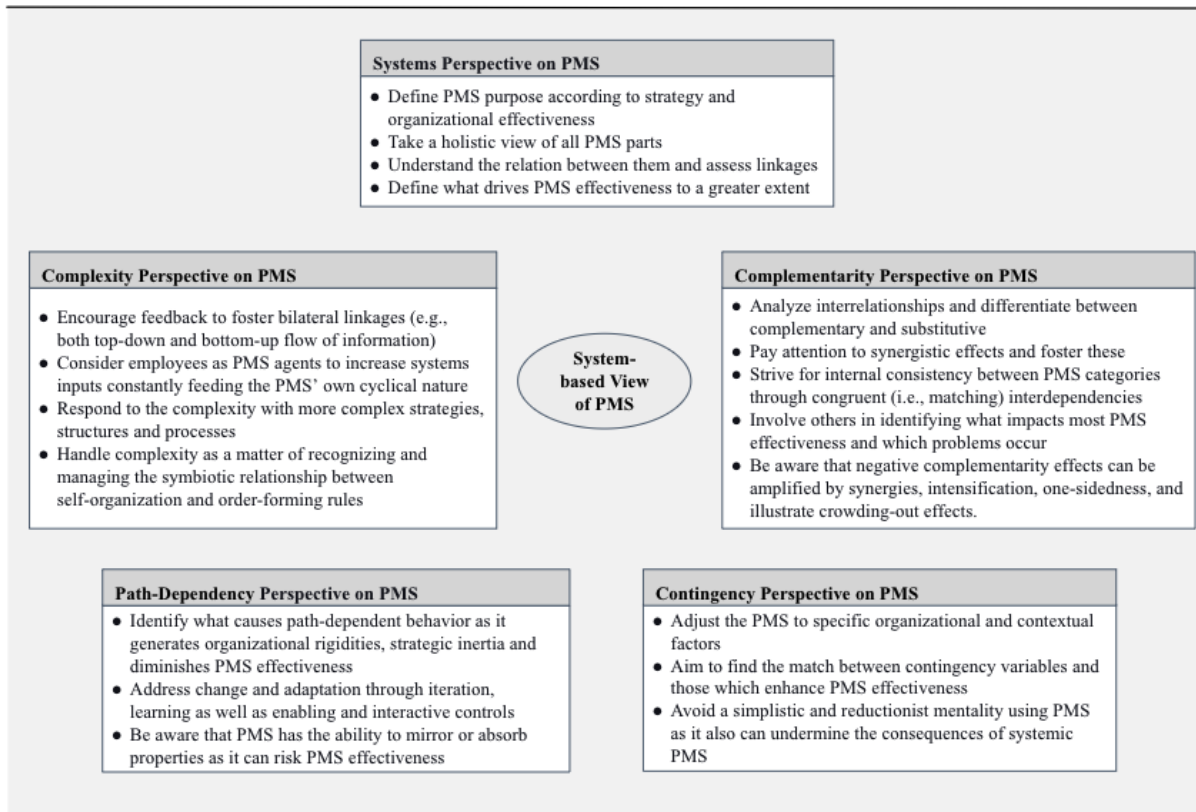


Figure 4: Overview of Practical Implications based on Theoretical Framework

First, we advise managers to comprehend PMS's multifaceted, complex, and systemic nature and identify what drives PMS effectiveness most. This study highlights that a view of PMS as a package is more common in practice. It seems unrealistic to capture the entire spectrum of interrelationships of PMS categories. Reflecting on a PMS as a package can already enhance managers to identify and understand the relation between PMS categories, assess linkages and thus acknowledge the systemic value, as well as enable managers to make conscious decisions on PMS design and usage.

Second, identifying PMS categories and interrelationships creating synergistic effects can leverage PMS effectiveness heavily. We recommend striving for internal fit between PMS

categories through congruent (i.e., matching) interdependencies while acknowledging that an absolute PMS fit is unrealistic.

Third, according to our empirical findings, companies' PMS is contingent-dependent and unique. Therefore, we recommend that managers should not rely on general recommendations but instead raise their awareness of the systemic value of their PMS and focus on dynamic PMS usage. The multiple-case study showcases that a simplistic and reductionist mentality using PMS can undermine the effectiveness of systemic PMS.

Fourth, we suggest constantly reviewing PMS design and usage, as a dynamic PMS is necessary due to its system logic and the issue that companies need to react to upcoming challenges and adjust PMS to specific circumstances. Considering the essential role of PMS for strategy, organization's performance, and thus also firms' value creation, we recommend keeping investing resources in PMS design and usage, e.g., in enabling and interactive control. Also, this study presents that some companies' PMS causes path-dependent behavior, thus generating organizational rigidities, strategic inertia, and diminishing PMS effectiveness. Enhancing PMS systemic value can support companies in compensating for unintended negative consequences, such as facing a lock-in effect.

Finally, this empirical study draws attention to the complexity of the PMS itself and points out that companies utilize the PMS to cope with complexity. We suggest managers avoid facing complexity by formulating simplifying structures and processes instead of embracing the complexity regarding PM. Not everything regarding performance can be controlled and managed. However, we suggest managers navigate through complexity by encouraging feedback to foster bilateral linkages, involving employees at different instances of the hierarchy as PMS agents, and managing the symbiotic ambivalence between self-organization and order-forming rules. Instead of limiting the systemic nature of PMS, this study highlights that the system value of PMS by encouraging openness and informal structures promotes managers' awareness and receptivity to PMS potential. Managing the systemic value of PMS consciously is essential and business-crucial, as the PMS never can guarantee effectiveness due to its systemic, dynamic, and evolving nature.

6.4. Limitations and Future Research

The research of this thesis is subject to limitations that provide opportunities for future research. These limitations primarily derive from the chosen method of this thesis and will be discussed in the following section.

Since the topic of PMS and its systemic value is complex, difficult to narrow down, and quite extensive in terms of research opportunities, a focused approach had to be taken in order to complete this work within an eight-week timeframe constraint. As a result, many aspects of PMS could not be addressed, and the researchers had to focus on a particular approach to answer the research question.

It is essential to point out that the empirical study is based on data that several independent student groups have collected, whereas the researchers have conducted one case report by themselves. Therefore, it must be emphasized that despite the sampling strategy and the performed quality assessment, the researchers cannot guarantee that the case reports reflect truthfully the interviews that the student groups conducted. Hence, this empirical data consists partly of subjective interpretations of various student groups. Respecting the fact that each case study stands alone in terms of the researchers who conducted them and the explored company, it was not the intent of this study to compare the cases with each other but rather to juxtapose them. Nevertheless, it could have happened that instead of exploring PMS design, usage, and consideration within the empirical data, we unintentionally compared the cases with each other.

Moreover, due to the explorative and interpretive nature of case study-type research, the empirical results based on interpretations may not be free from the influence of the researchers' subjectivity. Also, it should be noted that due to the researchers' primary role in analyzing and interpreting data, the extent to which the empirical findings would be replicated elsewhere is impossible to assess. The same subjects or similarly constituted subjects may not be available to future researchers, and if other subjects are used, results may differ; therefore, the generalizations that can be drawn from the study are certainly limited.

Future research is encouraged to build empirical studies on other PMS frameworks as a foundation to challenge these empirical findings. Also, further research could leverage this approach to explore other industries and consider managers' awareness from several organizational hierarchical levels. Moreover, it could be worth leveraging the findings by a

quantitative approach, as we are limited to not being able to statistically test any correlations between our identified findings regarding PMS design, usage, and consideration. Conducting a quantitative study would have the potential to showcase and determine the importance of the systemic value of PMS, for example, in terms of quantifying what most influences the systemic value of PMS and how strongly it correlates with PMS effectiveness. Lastly, futural research could address testing the feasibility and practicality for managers of the suggested theoretical framework we constructed throughout the paper.

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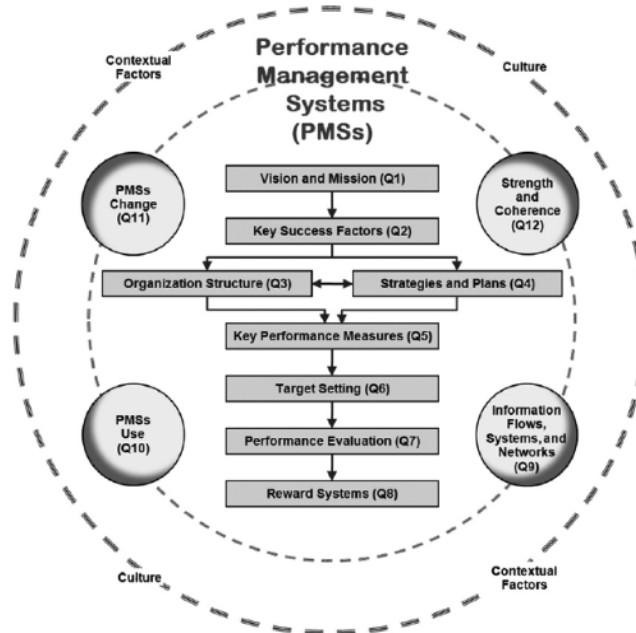
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Appendices

Appendix A

Ferreira and Otley's PMS Framework

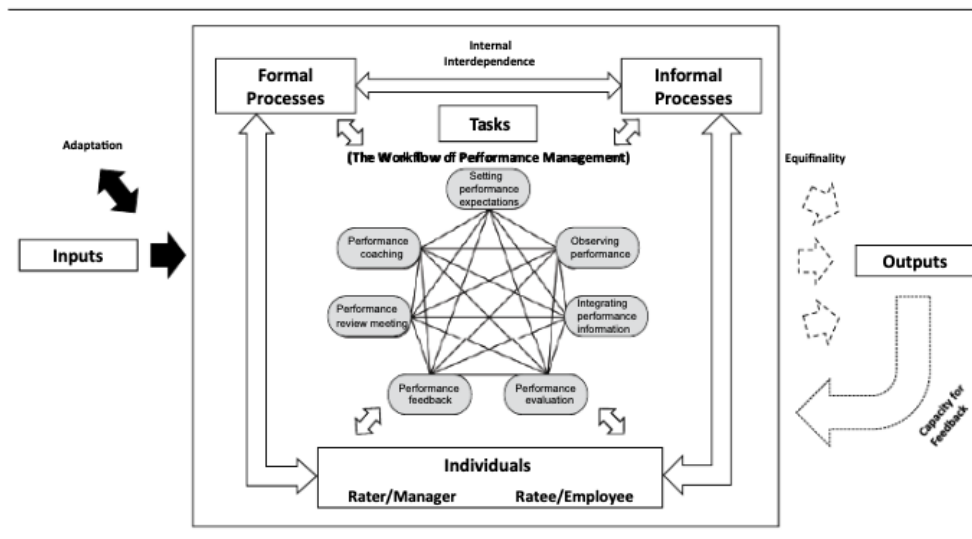


Source: Ferreira and Otley (2019)

Appendix B

Systems-Based Model of PM

A Systems-Based Model of Performance Management



Source: Schleicher et al. (2018)

Appendix C

Typology of MCS as a Package

Cultural Controls						
Clans		Values			Symbols	
Planning		Cybernetic Controls				Reward and Compensation
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measurement Systems	
Administrative Controls						
Governance Structure		Organisation Structure			Policies and Procedures	

Source: Malmi and Brown (2008)

Appendix D

Results of Purposive Sampling Strategy (Pre-Selection and Final Selection)

Case Name	Industry	Size	Headquarters	Presence	Interviewee Position	Case Quality (1 Low - 5 High)	Theoretical Criteria						Sampling Selection by Phase	
							Reliability	Internal Validity	External Validity	Specificity	Knowledge Gain	Sufficiency	First Sampling Pre-Selection	Final Sampling Selection
A	Technology	Large	United States	Global	Global Sales & Operations Director	5	High	High	High	High	High	High	Yes	Yes
B	Foods and Technology	Large	Germany	Global	Business Development Senior Manager	5	High	High	High	High	High	High	Yes	Yes
C	Medical Technology	Large	-	Global	Senior Manager	5	High	High	High	High	High	High	Yes	Yes
D	Technology and Medical	Large	Germany	Global	Compensation & Benefits Manager	5	High	High	High	High	High	High	Yes	Yes
E	Engine Technology	Large	United States	Global	Senior Vice President of Sales & Marketing	4	High	High	High	Medium	High	High	Yes	Yes
F	Technology and Dental	Large	Denmark	Global	Director of Marketing	4	High	High	Medium	High	Medium	Medium	Yes	Yes
G	Advertising Technology	Large	Cyprus	Global	Head of Optimization	5	High	High	High	High	High	High	Yes	Yes
H	Technology	Medium	Sweden	Regional	Head of People	5	High	High	High	High	High	High	Yes	Yes
I	Chemicals	Large	Germany	Global	HR Representative	3	High	Medium	Medium	High	Medium	High	Yes	No
J	Architecture and Construction	Small	Norway	Local	Senior Manager	2	Medium	Medium	Low	Low	Low	Medium	No	No
K	Medical Technology	Large	Sweden	Global	CEO of Global Sales	3	Medium	Medium	Medium	Medium	Medium	Low	No	No
L	Rubber Technology	Large	Sweden	Global	VP of Group Finance	3	Medium	Medium	High	High	Medium	Medium	No	No
M	Health Care	Large	Sweden	Local	CFO	4	High	High	Medium	High	Medium	High	Yes	No
N	Advertising	Small	Sweden	Local	CFO and CEO	5	High	High	High	High	High	High	Yes	No
O	Retail	Franchise	Sweden	Local	Co-owner of Franchise	3	Medium	High	Medium	Medium	Medium	Medium	No	No
P	Banking	Large	Sweden	Regional	Branch Manager	2	Medium	Medium	Low	Low	Medium	Medium	Yes	No
Q	Parcel Delivery	Large	Germany	Regional	Co-CEO	3	High	Medium	Medium	Medium	Medium	Medium	No	No
R	Governmental Institution	Large	Sweden	Local	Middle Manager	3	High	Medium	Medium	High	Medium	High	Yes	No
S	Marketing	Medium	Netherlands	Regional	CEO	4	High	Medium	High	Medium	High	High	Yes	No
T	Education and Toys	Large	Sweden	Regional	CFO	2	Medium	High	Low	Medium	Low	Medium	No	No
U	Consulting	Medium	Sweden	Regional	Manager Consultant	2	Medium	Medium	Low	Medium	Low	Medium	Yes	No
Total Yes												15	8	