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A Cross-functional Typology

Hansen, Allan

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**The purposes of performance management systems and processes:
a cross-functional typology**

Allan Hansen

Department of Operations Management

Copenhagen Business School

Denmark

Abstract:

Purpose – This paper aims to organise, in a general typology, the different purposes of performance management systems and processes (PMSPs) that are discussed across the performance management literature in different functional areas.

Design/methodology/approach – The typology is developed based on a traditional review of the performance management literature from three types of functional areas, represented by operations and production management, management accounting and human resource management.

Findings – The cross-functional typology illustrates how the different types of purposes discussed in the literature can be organised in a hierarchical structure. In this way, the basic purpose of organisational value creation for PMSPs can be decomposed into two layers of sub-purposes, the first specifying the domain and the second outlining the specific managerial use of PMSPs.

Practical implications – The presented typology may help managers across different functional areas map the purposes of their PMSPs; this mapping will not only provide the basics for understanding a PMSP's potential value for an organisation but also serve as an important input for PMSP design.

Originality/value – The presented typology has a broader scope than existing typologies of purposes in research and, consequently, better interrelates and tracks the various types of purposes discussed across different functional areas. This contributes not only to our understanding of performance management as a cross-functional field but also to research on the use and design of PMSPs in organisations.

Keywords: Performance measurement, Conceptual framework, Performance management, Cross-functionality

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1. Introduction¹

The purposes of performance management systems and processes (PMSPs) [1] in organisations have been discussed for decades in the literature (Ferreira and Otley, 2009; Franco-Santos et al., 2012; Henri, 2006; Melnyk et al., 2014; Murphy and Cleveland, 1995; Simon et al., 1954; Simons, 1995) and stand out as vital for at least two reasons. First, the purposes specify why PMSPs should be implemented and used in organisations and how, where and for whom PMSPs create value (e.g. Bisbe et al., 2019; De Leeuw and Van Den Berg, 2011; Kaplan and Norton, 2001); in this respect, the purposes are the value propositions of the PMSPs. Second, the discussion of purposes is closely linked with PMSP design because the achievement of a purpose is often argued to be design sensitive; that is, a PMSP designed to pursue one purpose is often reduced in its value when used for another purpose (e.g. Behn, 2003; McGregor, 1957; Zimmerman, 2020). This implies that different PMSPs, each specialising in achieving their purposes, often arise and co-exist in the same organisation (e.g. Cooper et al., 2019; Euske et al., 1993).

The discussion of the purposes of PMSPs is not only ongoing but also multiple [2].

One reason for the multiplicity is that different functional areas in organisations – such as management accounting (Euske et al., 1993; Otley, 1999), operations and supply chain management (De Leeuw and Van Den Berg, 2011; Flapper et al., 1996; Forslund and Jönsson, 2009), sales and marketing (Bartol, 1999), human resources management (HRM; Aguinis, 2014; DeNisi and Smith, 2014) and strategic management (O’Connell and O’Sullivan, 2014) – are engaged in performance management and give voice to how PMSPs should be used and designed. Despite the intense

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discussion of performance management, only scant research has worked across functional boundaries and aimed to give an overview and consolidate the knowledge that has been produced about the purposes of PMSPs in organisations (for an exception to this point, see Franco-Santos et al., 2007, for a listing of the various purposes of PMSPs from various streams of performance management literature). No research so far has synthesised the multiple purposes that have been discussed in the literature and explored their interrelations to offer a more comprehensive view of the multiple dimensions and levels through which the concept unfolds.

Because the various streams of the performance management literature already document that PMSPs are used for different purposes within a range of functional areas, the present paper asks how the different types of purposes can be organised in a framework. Based on a traditional literature review (Macpherson and Jones, 2010) of the performance management literature affiliated with three types of functional areas [3], the paper identifies a broad range of purposes and presents a framework that organises them into a hierarchical structure, demonstrating how the organisational domain and managers' use of the PMSPs represent two levels of the discussion of PMSP purposes. In this respect, the paper aims to produce a more comprehensive typology of the purposes of PMSPs to bridge discussions across functional areas and create a common platform on which the multiple PMSPs that often co- exist in organisations and their purposes can be projected.

The present paper's cross-functional typology contributes to performance management research in several ways. First, the paper's typology of the purposes of PMSPs is a contribution to research that is oriented towards what is referred to in more general terms as the use of PMSPs (e.g. Bisbe et al., 2019; Franco-Santos et al., 2012; Ferreira and Otley, 2009; Martinez et al., 2010; Melnyk et al., 2014). The purposes are about the intended use and the ways in which the PMSPs are presumed to generate value for the organisation. Until now, no research has organised

the different types of purposes of PMSPs discussed in the literature across different functional areas into a general framework, theorising on the relationships between the various dimensions and levels of purposes in the performance management literature overall. Second, purpose is closely linked to the question of the design of PMSPs (e.g. Behn, 2003; Cappelli and Tavis, 2016; McGregor, 1957; Zimmerman, 2020). The typology developed in the present paper provides new opportunities to formulate not only conflicts but also synergies between purposes and PMSP design. Finally, the paper contributes to the research by attempting to understand and define what performance management is as a field, and in particular, its cross-functional nature (e.g. Bititci et al., 2018; Franco-Santos et al., 2012; Martinez et al., 2010; Ferreira and Otley, 2009). The present paper demonstrates the scope of the discussion of performance management and how different functional areas' perspectives are reflected in the discussion of the purposes of PMSPs.

The rest of the paper is divided into five sections. Section 2 outlines the methodology. Section 3 presents the first level of PMSP purposes, demonstrating how the organisational domain within which the PMSP operates is a key purpose attribute. The section illustrates how three domains, within which three types of functional areas aim to manage performance, define three types of PMSPs. Section 4 outlines yet another level of the discussion of purposes, which has been discussed in the literature. It outlines how the purposes of PMSPs can be expressed in terms of how managers use PMSPs to manage their domains in more specific terms. Section 5 presents the purpose hierarchy that comes out of combining the different levels of PMSP purposes. Furthermore, the section discusses the typology's implications for practice and research. Finally, Section 6 concludes the paper by summing up the study.

2. Methodology

This section reflects on the research process of developing a conceptual framework. The first subsection considers the nature of the conceptual work and the role of the literature in this regard. The second subsection presents the cross-functional definition of performance management and organisational value creation that is the platform for the discussion of purposes in the present paper.

2.1 The conceptual work, research process and role of the literature

This paper follows many others in arguing that the concepts used and the accuracy and comprehensiveness by which they are defined are decisive for the development of any research domain (Goertz, 2006; Podsakoff et al., 2016). The aim of the present paper is to identify the attributes of the purposes of PMSPs that are, in some way, useful in explaining what PMSPs are used for across functional domains and to understand how they create value. The assumption is that attributions can be identified by looking more carefully at the literature, which represents practices and empirical reflections. In this respect, the paper also follows Goertz (2006) in presuming that the concept of organisational purposes is multi-dimensional and multi-level, which implies that “we can dissect and analyse concepts by (1) how many levels they have, (2) how many dimensions each level has, and (3) what the substantive content of each of the dimensions at each level is” (pp. 114–115).

The present paper analyses the concept of purpose by means of what Macpherson and Jones (2010, citing Rousseau et al., 2008) call a traditional literature review, in contrast to a systematic synthesis of research. The traditional literature review concentrates on a range of key or primary texts to represent a particular concept, theory or subject. Macpherson and Jones (2010, p. 109) state, “[T]he lack of systematic treatment of an area does not mean that this type of review

cannot be insightful, integrating and make a significant contribution by exploring prior research findings and theoretical development”.

The key texts that have been important for the conceptual work in the present paper come from the performance management literature affiliated with three functional areas – operations and production, management accounting and HRM. According to Porter (1998), these areas represent three different types of functions – two types of support functions (one oriented towards developing firm-wide infrastructure and another focussing on developing the organisation’s human resources [HR]) and an example of a primary function conducting the organisation’s primary activities. Each represents distinct performance information needs and, hence, conveys distinct purposes of PMSPs. In addition, the key texts discussed in the conceptual work include articles published in leading scientific journals as well as textbooks related to the three functional areas.

The process of analysing the literature, making sense of the texts and developing key concepts, assumptions and propositions about the purposes of PMSPs is elegantly described by Alvesson and Sandberg (2011). They maintain that the data processing and analysis phase is an iterative process that includes “the combination of hermeneutical in-depth readings, creative efforts, some boldness, patience, self-critique, support from theoretical stances other than one’s own, and sometimes even luck [...] to identify and articulate assumptions” (Alvesson and Sandberg, 2011, p. 257).

2.2 Organisational purposes and value creation: some key elements in defining a PMSP

In this paper, the concept of purpose comprises the aim to create organisational value. In defining organisational value creation, the paper follows a long tradition in organisation and management control research (Barnard, 1938; Merchant and Van der Stede, 2017; Milgrom and Roberts, 1992;

Simon, 1997) that underlines that the use of a management tool, system or process is value-creating when, as Merchant and Van der Stede (2017, p. 8) put it, it “influence [s] employees’ behaviour in desirable ways and consequently increases the probability that the organisation will achieve its goals”. Thus, in this stream of research, the discussion concentrates on the behavioural consequences of the use of PMSPs, analysing and discussing whether the behavioural consequences are desirable from an organisational perspective – that is, whether they contribute to better goal achievement (Ferreira and Otley, 2009; Franco- Santos et al., 2012; Pavlov and Bourne, 2011). According to Franco-Santos et al. (2012), this is but one way to conceptualise the consequences of PMSPs in organisations; two alternatives are the discussion of the extent to which PMSPs are embedded in organisational capabilities and the measurement of the impact of the use of PMSPs on firm performance.

This paper focusses on the behavioural consequences that relate to organisational value creation and the organisational purposes they engender (Franco-Santos et al., 2012, p. 85). The behavioural consequences are divided into two broad groups: those that relate to the coordination of employees and those that relate to the motivation of employees (Barnard, 1938; Merchant and Van der Stede, 2017; Milgrom and Roberts, 1992; Simon, 1997). Coordination means ensuring that the right employees are doing the right things at the right time and in the right way – that is, setting up the organisation. Motivation refers to employees’ engagement, honesty and persistence in delivering effort and information to the organisation. Thus, the concepts of coordination and motivation are broad in scope in the present paper. Coordination refers both to the manager’s overall resource allocation and provision that affects the employees’ opportunities to perform, as well as the guidance of the individual employee in his or her job (see also Simon, 1997 and his distinction between substantial and procedural coordination), and the motivational problem

is conceptualised as the behavioural consequences of both extrinsic and intrinsic motivation (Gagné and Deci, 2005; Osterloh and Frey, 2002).

A key element in any PMSP that makes coordination and motivation possible is the decomposition that the PMSP undertakes of performance. Decomposition is a management principle that has been theorised in system and organisation theory in general terms by, for example, Simon (1969), and it also informs conceptions of key issues in the performance management literature in particular, such as alignment (Hanson et al., 2011), responsibility accounting systems (Zimmerman, 2020) and the multi-dimensionality of performance (Neely et al., 2002). Decomposition means that a whole (i.e. an entity) is split into its parts. In this respect, decomposition specifies what performance consists of, and it constructs performance. It is, to a great extent, the decomposition that makes performance actionable for the individual employee or manager and makes it possible to make decisions about and act towards performance. The present paper contends that a PMSP decomposes performance in at least two ways – organisationally and conceptually.

Organisational decomposition is about the organisational entities that the PMSP specifies in its account of organisational performance. It is based on the assumption that an organisation can be expressed as a system of employees that, in combination and through their individual performance, contribute to the organisation's overall performance and goal achievement (Merchant and Van der Stede, 2017; Milgrom and Roberts, 1992). The organisation overall is defined in the present paper as a strategic business unit (SBU), which is characterised as an organisational entity that has an independent business strategy (Kotler et al., 2016; Porter, 1998). The SBU is presumed to be decomposable into the performance of organisational entities at a lower level of aggregation. The level of aggregation of an organisation entity refers to how many employees' performance is aggregated with respect to the entity's performance. In the present

discussion, the SBU is defined as the organisational entity with the highest level of aggregation. In contrast, the individual employee is the organisational entity with the lowest level of aggregation. In between these entities are other entities, such as departments, teams and processes, with levels of various degrees of aggregation. Organisational decomposition is based on the idea that the performance of an organisational entity at a high level of aggregation is decomposable into the performance of organisational entities at lower levels of aggregation.

Conceptual decomposition refers to how the PMSP decomposes performance as a concept; that is, what the performance concept consists of and how it can be split into parts. For example, a corporate budget may decompose an SBU's performance (profit) into direct and indirect costs, as well as revenue hence constructing its various parts (Zimmerman, 2020). Other, more extensive, examples of conceptual decompositions of performance, involving both financial and non-financial dimensions of performance, can be found in the performance prism (Neely et al., 2002), the balanced scorecard (Kaplan and Norton, 2001), as well as the classic Dupont pyramid (e.g. Simons, 1995).

Furthermore, the decomposition of performance that the individual PMSP entails is the backbone of what has been referred to as a PMSP control loop (e.g. Kaplan and Norton, 2001; Ferreira and Otley, 2009; Aguinis, 2014). This loop consists of the sequences in which the PMSPs decompose performance (organisationally and conceptually) and subsequently plan, measure/evaluate, report, compile and, finally, consolidate information about the performance of the organisational entity, which is the PMSP's domain.

3. The domain as purpose attribute – conceptualising three types of PMSPs and their functional affiliation

The present paper argues that a key attribute of PMSP purposes is the domain of the PMSP. The

domain is the organisational entity that the PMSP aims to manage the performance of. A domain for a PMSP can be the organisation overall, which, in the present paper, is also referred to as a strategic business unit (SBU) (see above), but it can also be a process, such as a manufacturing process (De Leeuw and Van Den Berg, 2011). Other domains are teams, departments (Wouters and Wilderom, 2008) and employees (Cappelli and Tavis, 2016; McGregor, 1957; Murphy and Cleveland, 1995).

Thus, the domains of PMSPs in organisations are multiple, and they differ in terms of their level of aggregation. The present paper distinguishes between three types of domains: the SBU, a process and the employee. These three domains are included in the present paper because they are the domains of the three types of functional areas it discusses. The first type is the support functions – such as management accounting – that see PMSPs as systems or processes which deliver a firm-wide performance infrastructure that makes it possible to decompose, plan, compile and consolidate performance from an overall SBU perspective (e.g. Euske et al., 1993; Otley, 1999). The PMSPs that have the SBU as their domain will be referred to as business PMSPs in the present paper. The second type is the functions that perform the primary activities in the organisations, such as sales, manufacturing and inbound and outbound logistical processes (Porter, 1998) and use PMSPs to manage the key processes they are involved in (e.g. De Leeuw and Van den Berg, 2011). This type of PMSP is called a process PMSP. Finally, the support functions that concentrate on managing the human resources in the organisations (Adler et al., 2016; Cappelli and Tavis, 2016; DeNisi, 2011) represent the third type of functional area. In this case, the domain is the employees in the organisation, and the PMSP specialising in this domain, is referred to as the people PMSP, is referred to as the people PMSP. Below, each type of PMSP, their domains as well as their functional affiliations are further characterised.

3.1 The business PMSP

The domain of the business PMSP is the SBU [4]. This type of PMSP is typically developed by functional areas – such as management accounting – that aim to deliver a firm-wide performance infrastructure for the organisation (Porter, 1998). There are numerous examples of business PMSPs in the literature (Hansson et al., 2011; Kaplan and Norton, 2001; Otley, 1999; Neely et al., 2002). Otley's (1999) seminal paper on performance management from the management accounting literature and the three examples of performance management systems that he provides – corporate budgeting, EVA[©] and the corporate balanced scorecard – are all examples of what can be classified as business PMSPs. In addition, contemporary or comprehensive performance measurement systems (Franco-Santos et al., 2007, 2012; Micheli et al., 2011; Micheli and Mura, 2017), strategic performance management systems (de Waal et al., 2009; Kloot and Martin, 2000) and the performance prism (Neely et al., 2002) represent this class of PMSP.

The performance management control loop of a business PMSP departs from the SBU's strategy or overall business goals expressed in financial or non-financial terms (Franco-Santos et al., 2007; Kaplan and Norton, 2001; Zimmerman, 2020). The strategic goals are cascaded by means of organisational and conceptual decomposition to organisational sub-entities at lower levels of aggregation (e.g. departments, teams, individuals), and planned business performance is contrasted with actual business performance at both aggregated and more disaggregated levels. Subsequently, performance information is compiled and consolidated at the SBU level, ideally leading to revised actions or strategic learning (e.g. Kaplan and Norton, 2001).

When it comes to the scope of the business PMSP, the ideal is often considered to be that the overall business goals/strategy is cascaded throughout all levels in the organisational hierarchy and, in this respect, aligns performance management from the top of the SBU to the

individual employee level (e.g. Kaplan and Norton, 2001; Otley, 1999). This decomposition often follows a vertical logic in which the organisational entities constructed reflect a hierarchical structure (Hansen and Mouritsen, 2007; Pellinen et al., 2016). However, the question of how many hierarchical levels the business PMSP covers – for example, whether it reaches the level of individual employees – is considered to be an empirical rather than a conceptual question. The literature provides many examples of budgets and balanced scorecards that do not reach the individual employee level (Zimmerman, 2020; Hansen and Mouritsen, 2005).

3.2 The process PMSP

The functional areas that perform the primary activities in the organisation – such as sales, manufacturing, inbound and outbound logistics (Porter, 1998) – often design, implement and use another and a specialised type of PMSP – the process PMSP – because the performance information provided by the business PMSPs is inadequate when it comes to managing the processes that these functional areas are involved in – i.e. sales, manufacturing and supply processes (e.g. Bartol, 1999; De Leeuw and Van Den Berg, 2011; Hald and Ellegaard, 2011; Maestrini et al., 2018). In the present paper, a process is defined as a ‘collection of activities that, taken together, produce output for customers (Garvin, 1998; Ittner and Larcker, 1997). Customers include not only external customers but also a series of internal recipients at linkage points between processes as output from upstream processes become the input of subsequent processes’ (Benner and Tushman, 2003, p. 240). In this respect, a process is a distinct organisational entity at a lower level of aggregation than the SBU, which is helpful in conceptualising the domains of the primary functional areas.

Manufacturing is an example of a primary function area in which process PMSPs are often designed, implemented and used to manage performance (e.g. De Leeuw and Van Den Berg, 2011; Kaplan, 1983). The literature has for decades illustrated the inadequacy of business PMSPs

when it comes to managing the performance of manufacturing processes while underlining the importance of and studying the role of specialised PMSPs (Fullerton et al., 2013; Kaplan, 1983; Kennedy and Widener, 2008; Schonberger, 1996). It has been asserted that the performance information provided by business PMSPs is too aggregated and general (Johnsson and Kaplan, 1987), does not address the right non-financial performance dimensions (Kaplan, 1983; Shonberger, 1996) or represents a vertical rather than a horizontal perspective on organisations (Hansen and Mouritsen, 2007; Pellinen et al., 2016; Womack and Jones, 1996). Parallel to the discussions in manufacturing, performance management research in sales and marketing (Bartol, 1999; Mintz and Currium, 2013), research and development (Nixon, 1998) and supply chains (Hald and Ellegaard, 2011; Maestrini et al., 2018) has also underlined the importance of and studied the role of process PMSPs within these functional areas.

The process PMSP's control loop departs from and returns to the process goals. In the loop, the process goals are decomposed into relevant performance information, and performance results are compiled and consolidated at the process level (e.g. De Leeuw and Van Den Berg, 2011; Schonberger, 1996). As in any other type of PMSP, the decomposition of performance in a process PMSP is conceptual as well as organisational. For example, the goals of a manufacturing are decomposed into a broad range of non-financial performance dimensions such as time, quality, flexibility, etc. (Schonberger, 1996; Kaplan, 1983), which develops the conceptualisation of what manufacturing performance consists of. Furthermore, the process PMSP also entails a decomposition of the process organisationally. Typically, it follows a horizontal logic (Hansen and Mouritsen, 2007; Pellinen et al., 2016), in which the process is decomposed into activities (Benner and Tushman, 2003). Furthermore, processes are also often decomposed into team and even individual performance (Schonberger, 1996).

Despite the differences between the business and process PMSPs in terms of domain, the integration and alignment between the two types of PMSPs is essential in order to ensure that performance management overall creates value for the organisation. Nevertheless, research clearly demonstrates that process performance measures are not always aligned with the organisation's overall goals and priorities (e.g. Johnston and Pongatichat, 2008).

3.3 The people PMSP

The third type of functional area, which formulates a distinct domain of PMSPs, is the support function that focuses on managing the human resources or the individual employees of organisations (Porter, 1998). This type of function demands people PMSPs, such as employee performance evaluations (Adler et al., 2016; Aguinis et al., 2012; Boxall and Purcell, 2011; Cappelli and Tavis, 2016; Murphy and Cleveland, 1995) and feedback systems (Budworth et al., 2015; Kluger and DeNisi, 1996) intended to support managers throughout the organisation in managing employees in their job roles and ensuring that human resources are attracted, retained and developed in the organisation [5].

Individual employee performance information is, in many cases, also provided by both business and process PMSPs, but the *raison d'être* for a people PMSP is that more performance information is needed to develop and motivate the individual employee. For example, the people PMSP decomposes performance at the individual employee level not only in terms of in-role performance (i.e. task performance) but also in relation to extra-role performance (i.e. organisational citizenship or behaviours; e.g. MacKenzie et al., 1993), as well as the competences and abilities of the individual employee (Adler et al., 2016; Aguinis, 2014).

The control loop in people PMSPs typically departs from the goal-setting of the individual employee, includes individual feedback as well as individual performance appraisal and

is linked with compensation or development plans for the individual employee (Cappelli and Tavis, 2016; McGregor, 1957; Murphy and Cleveland, 1995). Like process PMSPs, people PMSPs are specialised PMSPs that must be aligned and linked with the organisation's overall and strategic goals (Adler et al., 2016; DeNisi, 2011; Murphy, 2020). However, in parallel to the process PMSPs, HRM research has underlined the challenges that exist in terms of aligning the PMSPs of this domain with the SBU's strategic goals (e.g. DeNisi and Smith, 2014).

3.4 Summarising the three types of PMSPs

Table 1 summarises some key characteristics of the three types of PMSPs. The figures in the first row of the table illustrate the domain and potential scope of each type of PMSP. It is noteworthy that the business and process PMSPs do not necessarily decompose performance to the lowest level of aggregation – that is, the individual employees. That the full range is only an option, which is not necessarily exploited, is illustrated by the vertical colour grading of the figures. The next row describes the purposes of the three classes of PMSPs. Subsequently, the performance management control loop included in each type of PMSP and its functional affiliation is described. The fifth row outlines some examples of PMSPs of the three classes.

The present paper explains the emergence of process and people PMSPs in organisations with residual performance information needs relating to managing the process and HR domain in the organisation that the business PMSPs leave behind. The performance information developed by business PMSPs is often argued to be too general or aggregated to meet the specialised performance information needs for managing processes such as manufacturing, sales and supply chains, as well as HR in the organisations (e.g. Johnson and Kaplan, 1987; Murphy, 2020; Pellinen et al., 2016; Schonberger, 1996). In this respect, the three types of PMSP represent a

	Business PMSP	Process PMSP	People PMSP
Scope/domain			
Purpose	<ul style="list-style-type: none"> Performance management of the Strategic Business Unit (SBU) 	<ul style="list-style-type: none"> Performance management of a process in the SBU (e.g. manufacturing, sales or supply process) 	<ul style="list-style-type: none"> Performance management of the individual employee in the SBU
Control loop	<ul style="list-style-type: none"> Depart from the SBU's strategy/overall business goal(s) (financial and/non-financial) Organisational decomposition of performance into department, team and, in some cases, even individual performance (following a vertical/hierarchical logic) Compile and consolidate performance at the SBU level 	<ul style="list-style-type: none"> Depart from the goals of the process in focus. In principle, should be aligned with the SBU goals Organisational decomposition of the process performance, e.g. into activities, teams, and eventually, individual performance (following a horizontal/lateral logic) Compile and consolidate performance at the process level 	<ul style="list-style-type: none"> Depart from the individual employee's goals. In principle, they should align with SBU and process goals Decomposition of the individual performance into task performance/extra-role performance/competences based on the individual employee's job role Compile and consolidate performance at the individual employee level
Functional area affiliation	Support functions <ul style="list-style-type: none"> Accounting Strategy 	Primary functions <ul style="list-style-type: none"> Manufacturing Supply chain management Sales/marketing 	Support functions <ul style="list-style-type: none"> HRM Compensation and benefits
Examples of PMSPs	<ul style="list-style-type: none"> Corporate budgets EVA[®] Corporate balanced scorecard 	<ul style="list-style-type: none"> Manufacturing measurement systems Supplier evaluation systems/scorecards Marketing metrics in a customer relationship management system 	<ul style="list-style-type: none"> Performance appraisals/reviews One-to-one feedback concepts

Table 1: Three types of Performance Management Systems and Processes (PMSPs)

division of labour when it comes to providing performance information in organisations – each specialises in providing performance information meeting a certain function-related purpose.

As in any other type of division of labour, integration is necessary, and in principle, if the three types of PMSPs co-exist in the individual organisational setting, they should be integrated and aligned to ensure that performance management creates the most value for the organisation. In the table, this is indicated by the dotted arrows among the figures of the three types of PMSPs. However, tensions and misalignment may occur among the different types of PMSPs but it is beyond the scope of the present paper to discuss them in greater depth (e.g. DeNisi, 2011; Johnston and Pongatichat, 2008).

4. The managerial use as purpose attributes – four types of managerial use of performance information

Whereas the section above illustrates that one level of the discussion of purpose is about the domain of the PMSP, the present section reveals that another level of the discussion is about how performance information, more specifically, is used by managers. One of the interesting findings from the present paper's literature review is the similarities across the different domains in terms of how managers use performance information, which makes it possible to formulate a set of cross-functional managerial purposes of PMSPs.

The literature has discussed the managerial purposes of PMSPs for decades (e.g. Ahrens and Chapman, 2004; Henri, 2006; Melnyk et al., 2014; Murphy and Cleveland, 1995; Simon et al., 1954; Simons, 1995; Zimmerman, 2020), and researchers have used different terms (Franco- Santos et al., 2012) and perspectives in outlining them (Bisbe et al., 2019). For example, Henri (2006) highlights, drawing on Simon et al. (1954), how PMSPs help managers in the overall coordination of their domain by answering questions such as “How am I doing?” – that is, fulfilling

the monitoring purpose (Henri, 2006, p. 81); “What problem should we look more into?”, which is related to the attention directing purpose (Henri, 2006, p. 81); and “Of the several alternatives, which is rationally the best?” – that is, fulfilling strategic decision-making purposes (Henri, 2006, p. 81). Furthermore, Henri underlines a fourth purpose that is about ensuring credibility and resource provision, which he refers to as the justifying purpose (Henri, 2006, p. 81). Other researchers concentrate on the purposes that PMSPs fulfil for managers when it comes to control of the employee and distinguish between, for example, enabling or coercive control (e.g. Ahrens and Chapman, 2004) and rewarding or developing employees (McGregor, 1957; Cappelli and Tavis, 2016). Other researchers again demonstrate that the managerial purposes include aspects related to both managers’ overall coordination and control of the employees – for example, in terms of managerial decision making and control (e.g. Zimmerman, 2020) – and control, communication and performance improvement (Melnyk et al., 2004) [6]. Thus, the types of managerial purposes discussed in the literature are multiple, and they differ in terms of scope and focus. Nevertheless, the aim of the present paper is to present a typology that is able to synthesise the multiple types of managerial purposes that are discussed across the different streams of the literature.

One way to organise the multiple types of managerial purposes discussed in the literature is to project them on the types of coordination and motivation effects that they seek. As described in section 2, the present paper follows a long tradition in organisation and management control theory, stating that management problems can be divided into coordination or motivation problems (Barnard, 1938; Merchant and Van der Stede, 2017; Milgrom and Roberts, 1992; Simon, 1997). By following these definitions, coordination and motivation become concepts broad enough to embrace the multiple types of managerial purposes discussed in the literature.

The present paper defines four types of managerial purposes – facilitating, incentivising, orchestrating and documenting – each representing certain types of coordination or

motivation effects. The facilitating and incentivising, to be presented in subsections 1 and 2 below, specify two ways in which PMSPs can be used by managers to deal with the control problem of the employee. The type of coordination that these two purposes are directed towards is the coordination of the individual employee, which is what Simon refers to as substantial coordination (Simon, 1997). However, what differentiates the two purposes is the type of motivation that they aim to support by means of performance information – i.e. intrinsic or extrinsic motivation (Gagné and Deci, 2005; Osterloh and Frey, 2002). Furthermore, PMSPs play a significant role in dealing with the overall coordination of the domain, which is closely connected to what Simon (1997) refers to as procedural coordination. The orchestrating and documenting purposes, to be presented in subsection 3 and 4 below, relate to two sides of this type of coordination. The orchestrating purpose is about overall resource allocation, whereas the documenting purpose is about resource provision.

4.1 The facilitating purpose

The facilitating purpose to be discussed in the present sub-section and the incentivising purpose to be discussed in the next section represent two ways in which managers can use PMSPs to control employees. In general, the control problem is dual and consists of both a coordination and a motivation problem (Milgrom and Roberts, 1992; Merchant and Van der Stede, 2017). The coordination problem is about informing the employee about performance to better coordinate the employees' actions and decisions. The coordination effects pursued, by both types of purposes, reflect Galbraith's (1973) seminal argument that the value of information provision is determined by the gap between what the employee needs to know regarding the performance of a job and what the employee actually knows (e.g. Davila, 2000). Filling this gap guides the employee and creates value for the organisation. Furthermore, according to theory on information processing, decision-making and learning (e.g. Argyris, 1977), the coordination effects of the employee can be divided

into three, i.e. improved coordination happens because the performance information (1) ex ante sets the direction (informs the employee about what to do to create value for the organisation), (2) ex post provides input that is useful for taking corrective actions (i.e. single-loop learning) or (3) inspires the employee to search for new ways of doing the job (i.e. double-loop learning).

What differentiates the two types of purposes is the way in which they approach the motivation problem and the type of employee motivation that they aim to influence by means of performance information. The classic distinction between extrinsic or intrinsic motivation is helpful in this respect (Gagné and Deci, 2005; Osterloh and Frey, 2002). The facilitating purpose aims to support the employee's intrinsic motivation, and the incentivising purpose seeks to drive actions and decisions by means of the employee's extrinsic motivation.

Prior research documents that the facilitating purpose is pursued by business process as well as people PMSPs. For example, regarding business PMSPs, studies of the enabling control of accounting (Ahrens and Chapman, 2004; Wouters and Wilderom, 2008) illustrate how budgets and strategic performance measures take the facilitating role and play significant parts in terms of creating goal commitment, correcting action and stimulating learning in organisations by aiming to support intrinsic rather than extrinsic motivation (Webb, 2004; Wouters and Wilderom, 2008). Furthermore, research provides evidence that people PMSPs are often oriented towards intrinsic motivation support in individual goal- setting (Locke and Latham, 2002), feedback (Kluger and DeNisi, 1996) and performance appraisals (Murphy and Cleveland, 1995). Finally, process PMSPs researchers – for example, in lean and world-class manufacturing settings – have also created a well-established perspective that performance information in process performance management should take a facilitating – rather than incentivising – role to improve performance in manufacturing and service processes (e.g. Cooper, 1995; Demming, 1986).

4.2 The incentivising purpose

The incentivising purpose of PMSPs is embedded in the decision to link the employee's performance with some sort of extrinsic reward or punishment. In this case, the employee's motivation to act in accordance with the performance information and in a well-coordinated manner is presumed not to be intrinsic but rather something that requires extrinsic motivation (Gagné and Deci, 2005; Osterloh and Frey, 2002). Extrinsic rewards can be bonuses, salary increases, piece-rate pay, sales provision and promotions (Gerhart and Newman, 2020), which are all financial incentives, but they can also be social recognition, e.g. awards (Gallus and Frey, 2016), which are social incentives. Examples of punishment of the financial and social kinds can be the fear of demotion or dismissal, as well as social exclusion (Lazear and Gibbs, 2015; Miller, 2003).

In research, the incentivising purpose has been intensely discussed with respect to all three types of PMSPs. Attention has primarily been directed towards the incentive effects of financial compensation. For example, there are many examples of business PMSPs in which the implementation of strategy and the alignment of actions throughout the hierarchy are considered based on financial incentives (Franco-Santos et al., 2007; Hanson et al., 2011; Kaplan and Norton, 2001). In addition, research on people PMSPs emphasises that incentives can be essential for attracting, retaining and developing employees (Boxall and Purcell, 2011; Gerhart and Newman, 2020), and reward and compensation decisions are organised to suit the annual performance management cycle (goal-setting, appraisal, feedback and rewards; Aguinis, 2014). Finally, the performance of processes is also often managed based on financial incentives, such as incentives in driving performance improvements in specific work processes and relationships with customers and suppliers (see discussions of productivity improvement in operations in the Lincoln and SafeLite cases in Roberts, 2004).

4.3 The orchestrating purpose

Much research also discusses purposes of PMSPs that relate to how performance information improves managers' decision-making and actions with respect to the overall coordination of the domain in focus, i.e. the SBU, processes or employees. Various aspects of the resource allocation problem are addressed in the discussions, including those that relate to resource planning based on PMSPs (Slack et al., 2016; Zimmerman, 2020) and allocation adjustments based on scorekeeping, monitoring or diagnostic roles of PMSPs (Henri, 2006; Simons, 1995), as well as the need to allocate resources in new ways due to strategic learning conveyed by PMSPs (Kaplan and Norton, 2001). In the present paper, these aspects are classified as the orchestrating purpose, as they in combination provide insight into how managers use PMSPs to orchestrate the domain – i.e. the planning, adjustment and rearrangement of resource allocation. This purpose is critical in terms of shaping the organisational system within which the employee operates and, hence, affecting the opportunities for the employee to perform (see discussions of the ability, motivation and opportunity [AMO] model; Appelbaum et al., 2000; Boxall and Purcell, 2011).

It is also clear from the literature that the orchestrating purpose can be pursued by all three types of PMSPs described in section 3. Business PMSPs play significant roles in resource planning with respect to the SBU, such as in terms of resource allocation between departments and divisions (Zimmerman, 2020) and allocation of resources to strategic initiatives (Kaplan and Norton, 2001). Process PMSPs are used by managers as input for, for example, manufacturing planning (Slack et al., 2016), and people PMSPs are used for workforce planning, competence development and talent management (Aguinis et al., 2012; Cappelli and Tavis, 2016; Murphy and Cleveland, 1995). Furthermore, PMSPs provide important input for adjustment of the resource allocation in the three domains (Henri, 2006; Murphy and Cleveland, 1995; Slack et al., 2016; Simons, 1995). Finally, PMSPs have the potential to create strategic learning, which is the case

when performance measures from business, process and people PMSPs are used to develop causal knowledge in organisations and test the effects of business models (Kaplan and Norton, 2001), strategic HR initiatives (Becker et al., 2001) and operational excellence and profit-service chains (Heskett et al., 1994). Strategic learning becomes an important input for re-arranging resource allocation and, hence, is also an important component in the orchestrating role of all three types of PMSPs.

4.4 The documenting purpose

Finally, there is also a discussion of PMSP purposes, which also relate to the overall coordination of the manager's domain, but in this case, it is about the manager's work with meeting an external request for documentation necessary for justifying one's actions and decisions and ensuring resource provision to the domain (Henri, 2006; Murphy and Cleveland, 1995; Slack et al., 2016; Zimmerman, 2020). This type of purpose will be referred to as the documenting role in the present paper, and it pertains to the manager's responsibility to report to external stakeholders and to deliver evidence of performance according to prescriptions whenever requested, which then ensures that enough resources are available for the employees' performance, and the overall procedures for the organisation are coordinated (see also Simon, 1997 discussions of the concept of procedural coordination).

All three types of PMSPs are used to meet documentation requests. For example, Zimmerman (2020) discusses how reimbursement relies on performance information from business PMSPs, and how external funding for a specific organisational activity or decision depends on the documentation of business performance. Cleveland and Murphy (1995) emphasised that people PMSPs also play an important role in documentation, including documenting personnel decisions (e.g. dismissals) and meeting legal requirements. Finally, the operations management literature

provides examples of how process PMSPs are important for obtaining licences to operate (Slack et al., 2016), such as when authorities require certain quality information about work process performance in the pharmaceutical industry to authorise market access, or when preventive actions need to be taken to comply with environmental regulations.

4.5 The four managerial purposes and their interrelationships

To further clarify the four purposes of performance information, they are placed in a two- by-two matrix (see Figure 1). One dimension (the decision-maker) in the matrix clarifies who it is that is presumed to use the performance information and, based on that, improve decisions and actions in the organisation. Is the performance information exchange used by the manager vis-à-vis the employee to influence the employee’s decision making and actions or is performance information used by the manager to support his or her own decisions and actions that shape the organisational system in which the employee performs?

		Decision-making issues	
		Decision support	Decision regulation
Decision maker	Employee	Facilitating	Incentivising
	Manager	Orchestrating	Documenting

Figure 1: Four types of managerial purposes

The second dimension distinguishes between performance information taking a decision-supporting role or a decision-regulating role. This question arises from a basic divergence in the theories of bureaucracy, organisations and management in terms of understanding the purpose of formalisation and bureaucracy in organisations (Barnard, 1938; Milgrom and Roberts, 1992; Simon, 1997), which also represents a divergence in the roles of performance information. Decision support refers to situations in which the PMSP creates more knowledge and improves the quality of the decision-making of managers and employees. By contrast, decision regulation takes its point of departure in the problem of participation (Barnard, 1938; Milgrom and Roberts, 1992; Simon, 1997), and that some sort of external regulation is required in order to make decisions and actions happen. When it comes to employee control is external regulation, a matter of extrinsic motivation (Gagné and Deci, 2005), and when it comes to the manager's overall coordination, is it a question of external documentation to comply with broader institutional regulations.

Thus, the four purposes described above add another level to the discussions of PMSP purposes, illustrating the multiple ways in which PMSPs have the potential to add more value to the organisation.

5. Discussion

This section discusses the typology of PMSP purposes that comes out of the different levels and dimensions of purposes outlined above. The first subsection presents the hierarchical structure of the typology and discusses what the typology offers in terms of the refinement and expansion of the PMSP purpose conceptualisation in research. The next section reflects on what the typology adds to our understanding of performance management as a cross- functional field. Finally, the third subsection discusses the relevance of the typology for future research.

5.1 The purpose hierarchy

Figure 2 organises the purposes described in sections 3 and 4 in a hierarchical structure expressing how a PMSP's general purpose of value creation can be decomposed into two levels of sub-purposes. The first step of this decomposition is represented by the three types of PMSPs (i.e. business, process or people). These are the PMSPs of three types of functional areas in organisations, which in the present paper are represented by management accounting, operations and production and HRM. The three types of PMSPs are oriented towards managing three organisational domains (the SBU, processes and employees) that, on the one hand, are linked because they represent organisational entities at different levels of aggregation in the organisation but, on the other hand, are also domains that represent certain performance information needs, which implies that the three types of PMSPs often emerge in organisations to meet these needs, i.e. the three types of PMSP *raison d'être*. The second step of the decomposition (see section 4) details how the different types of PMSPs more specifically can be used by managers to manage these domains either in a facilitating, incentivising, orchestrating or documenting way by means of performance information.

The lines among the different levels in the hierarchy illustrate how the multiple purpose dimensions from each level are linked and illuminate the “purpose track” by which a PMSP can be characterised. For example, the PMSP that Hanson et al. (2011) studied would be characterised as a business PMSP using performance information in an incentivising role. In contrast, the PMSP in Budworth et al.'s (2015) study is used for people performance management, and the performance information takes a facilitating role in creating performance improvements. Finally, Wouters and Wilderom's (2008) PMSP in a logistics department is used for process performance management, where performance information is intended to play both a facilitating and an orchestrating role.

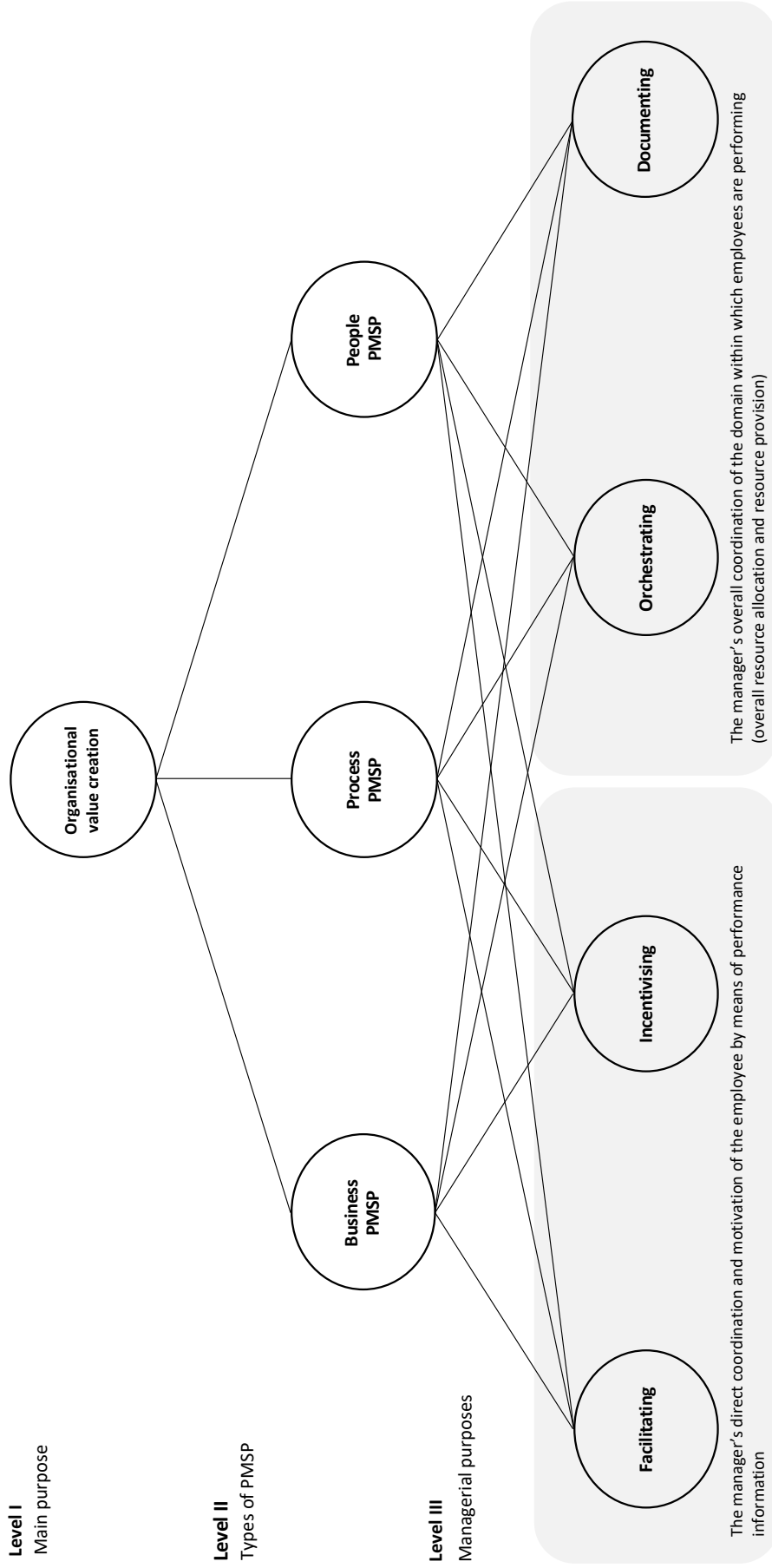


Figure 2: The purpose hierarchy of PMSPs in organisations.

The purposes in the typology are all design sensitive, meaning that tensions and conflicts may arise if a PMSP aims to serve different domains (DeNisi, 2011; Johnson and Kaplan, 1987; Pellinen et al., 2016) or different managerial purposes (e.g. McGregor, 1957; Meyer et al., 1965; Murphy and Cleveland, 1995; Zimmerman, 2020). More research is needed to further clarify and specify the extent to which integration is possible and how combinations of purposes and PMSPs are relevant. The aim of the present paper has been to conceptualise the broad range of purposes that are at stake across different functional areas and from which tensions seem to arise and work needs to be done.

5.2 Insights into performance management as a cross-functional field

The present paper's discussion of PMSP purposes contributes to our understanding of performance management as a cross-functional field (Bititci, 2015; Bititci et al., 2018; Franco-Santos et al., 2012; Martinez et al., 2010; Ferreira and Otley, 2009). The paper discusses three types of functional areas that are involved in designing and implementing PMSPs in organisations – exemplified by management accounting, operations and production and HRM. The three types of functional areas differ because they concentrate on managing performance within three types of domains, which are all essential for an organisation's goal achievement. Management accounting belongs to the types of support functions that are concerned with managing performance from an overall SBU perspective and deliver a firm-wide performance infrastructure (e.g. Porter, 1998). Functional areas, such as operations and production, are concerned with managing the processes essential for performing the primary activities in organisations (Porter, 1998). Finally, the support functions concentrating on managing the organisation's human resources (Porter, 1998) are concerned with managing the performance of employees to ensure their development and motivation. Each of the three types of domains are connected because they represent organisational entities at different levels of aggregation, and they differ because they represent different performance information

needs, which is why different types of PMSPs emerge from each of the domains. In this respect, the three types of PMSPs are critical in understanding the cross-functional nature of performance management because they represent the different performance information needs present in organisations caused by functional differences, and they clarify important points of connection and interfaces in organisations when it comes to the production and integration of performance information in organisations. This is where cross-functional performance management research has a set of points of departure.

Another important finding is the similarities between the managerial purposes discussed across the different types of functional areas. Performance management research in management accounting, HRM and operations and production pursue the same types of coordination and motivation effects, which in the present paper are conceptualised as the facilitating, incentivising, orchestrating and documenting purpose. This implies that practitioners and researchers affiliated with the three types of functional areas have a unique opportunity for knowledge-sharing. It requires, however, a cross-functional conceptualisation that facilitates the sharing of experiences and knowledge about the common problems that are addressed in different functional area. The purpose hierarchy presented in the present paper offers such a conceptualisation.

5.3 Further research

Just as knowledge of the purposes of a PMSP is essential for understanding its organisational value, so is knowledge of its design. The present paper indicates only the tensions among the multiple purposes and the design of the PMSP. Extant research that investigates opportunities to serve multiple types of purposes with the same PMSP has produced mixed results (Cappelli and Tavis, 2016; Hansen and Mouritsen, 2005; Meyer et al., 1965; Murphy and Cleveland, 1995; Zimmerman,

2020). Thus, more research is required on the interrelationships between the performance information needs of different types of purposes. Based on the purpose hierarchy, the next step could be to investigate the following questions more carefully: what design fits which types of domain and managerial purposes? What are the criteria for a good design for a given type of purpose? To date, research has primarily provided, for example, insights into the criteria for incentivising the use of PMSPs (e.g. Lazear and Gibbs, 2015; Merchant, 2006) and criteria that are relevant to the facilitating role in terms of discussions of enabling accounting systems (e.g. Ahrens and Chapman, 2004). However, more knowledge can be produced in terms of purposes in more general terms, and how the criteria for individual purposes interrelate.

The question of integrated performance measurement systems has been addressed in research for decades (e.g. Nanni et al., 1992), but what are the specific challenges in terms of integrating the three types of PMSPs described in this paper? Some important elements of the answer seem to involve the “system-of-systems perspective” (Bourne et al., 2018), in which the PMSPs that co-exist in organisations become “disparate, diverse, autonomous and asynchronized entities [that] work together without losing their individual sense of purpose and without loss of idiosyncratic capability, in order to realise some higher-level and otherwise unattainable purpose” (Sauser et al., 2010, p. 805, quoted in Bourne et al., 2018, p. 2790). It is hoped that future research concentrating on these questions of integration caused by multiple types of PMSPs with different functional affiliations will provide more insight.

Finally, the aim of the present paper has been to focus on the purposes of PMSPs and, thus, their intended consequences. Another important question for research relates to the real and even unintended consequences of the use of PMSPs (Franco-Santos and Otley, 2018). Nevertheless, advancements in research in terms of how the intended consequences are conceptualised may also

provide better opportunities for developing research on the unintended consequences as understanding the intended results is a precondition for understanding the unintended ones.

6. Conclusion

This paper has developed a theoretical framework that helps distinguish the different types of purposes of PMSPs discussed across the functional areas involved in performance management initiatives in a more comprehensive way than has been done before. The broader scope provides new opportunities for characterising the different types of PMSPs that often co-exist in the same organisation, and for understanding the behavioural consequences, they are intended to create to better achieve the organisation's overall goals – i.e. create organisational value. These purposes outline how PMSPs create value for organisations and where and how tensions may arise within and between them when it comes to achieving the objectives of performance management. In this respect, the typology provides new opportunities for both understanding performance management practices and conducting performance management research.

End notes

1. A performance management system or process (PMSP) is defined as a formalised system or process of performance information exchange in an organisation, designed and used with the aim of creating value for the organisation – that is, contributing to organisational goal achievement (e.g. Merchant and Van der Stede, 2017). Furthermore, performance information is conceptualised as any formalised statement of an employee’s performance, which can be quantitative, qualitative, written, oral, financial or non-financial. Thus, the concept of a PMSP is broad in scope, ranging from formalised processes that facilitate weekly performance dialogues among managers and employees (Buckingham and Goodall, 2015; Murphy, 2020) to a multi-dimensional strategic performance measurement system or a budget providing information about annual performance results (Ferreira and Otley, 2009; Hanson et al., 2011). This also implies that research specialising in functional areas, such as accounting, human resource management (HRM), production, operations and supply chain management, produces knowledge of performance management.
2. In general, purpose means the reason something is done or made. It is the result or effect intended or sought. In research, key aspects of purposes have also been discussed under other labels, such as “basic functions” (Melnik and Swink, 2004), “benefits” (Speckbacher et al., 2003), “effects” (Pavlov and Bourne, 2011), “roles” (Franco-Santos et al., 2007; Meyer et al., 1965) or simply “use” of PMSPs (Henri, 2006).
3. The present paper draws on Porter’s (1998) value chain model in defining a functional area or function in an organisation. A functional area in an organisation is defined as activities that a certain group of employees specialises in performing in order to fulfil a particular function in an organisation (e.g. inbound and outbound logistics, productions and operations, sales and marketing, HRM, accounting).
4. This paper uses the term business to signal the overall perspective on performance – that is, the concern with managing performance of the organisation overall (i.e. the SBU). This differs from Franco-Santos et al.’s (2007) use of the term in their discussion of business performance measurement systems. They use the term business “as a boundary to exclude public and no-profit sector literature” (p. 786). In principle, the typology developed in this paper is applicable in both the profit and non-profit sectors, as PMSPs are considered tools to better achieve the organisation’s overall goals, which can be profit or non-profit goals.
5. This type of PMSP is often referred to as an employee PMSP in HRM research (Decramer et al., 2013; Neary, 2002); however, the present paper labels it as a people PMSP to align with more recent conceptualisations of people management systems used in strategic HRM literature (McClellan and Collins, 2019).

6. Performance improvement is a purpose that is often discussed in the literature (e.g. Budworth et al., 2015; Melnyk et al., 2004) and in multiple ways. The present paper conceptualises performance improvement as integrated in the discussion of value creation. When a performance measure is congruent, that is, when the measure is aligned with the organisation's overall goals (Merchant, 2006), then performance improvement according to the measure will create organisational value and vice-versa when the performance measure is incongruent. Thus, congruent business, process and people PMSPs all aim at performance improvement, i.e. creating value. The four sub-purposes introduced in the present section conceptualises how the individual type of PMSP can pursue performance improvement. Budworth et al. (2015) study how a people PMSP through the facilitating role create performance improvements, whereas Melnyk et al. (2004) argue that performance improvement is about the identification of "gaps (between performance and expectation) that ideally point the way for intervention and improvement" (p. 211), which is also a fundamental element in the purposes introduced in the present section - see for example the discussions of the facilitating and incentivising purposes below.

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